



Hiring Process Analytics

BY

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Overview

The project aims to analyse the hiring data of a company to gain insights into the recruitment process and employee demographics.

I am a data analyst at a multinational company like Google. My task is to analyse the company's hiring process data and draw meaningful insights from it. The hiring process is a crucial function of any company, and understanding trends such as the number of rejections, interviews, job types, and vacancies can provide valuable insights for the hiring department.

OBJECTIVES

- Understand the distribution of positions across different departments and tiers.
- Analyse the gender distribution of hires and identify any gender disparities.
- Determine the average and median salaries for different job positions.
- Investigate the frequency of salary ranges offered to hired candidates.
- Identify any outliers in the salary data that may skew the analysis.

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APPROACH

- Data Cleaning: I start by cleaning the dataset to handle missing values and ensure data consistency.
- Exploratory Data Analysis (EDA): I conduct EDA to explore the hiring data, visualize key trends, and identify patterns.

1. In row number 80, the cell that was empty belongs to a candidate who was rejected. The candidate is male and applied for a position in the Sales Department with the job title "i7."

After looking at all candidates with the same details (rejected status, male gender, Sales Department, and job title "i7"), I found the average offered salary to be 54971.

So, I filled in the empty cell with this average value of \$54971.

2. In the event_name column, I replaced all '-' hyphens with 'Don't want to say'.
3. In row 7, there's a hired male in the Sales Department with an offered salary of 85914, but there's no specified post name.

So, I filled it with a post name i4 because the salary range is similar. This situation only occurred in the Purchase and Sales Departments.

4. In the "Offered Salary" column, I'll create a new column to group salary ranges together, sorting them into different categories.

- Statistical Analysis: I calculate summary statistics such as averages, medians, and standard deviations for relevant variables.

1. Standard Deviation = 28848
2. Median = 49631
3. Maximum Salary = 400000

4. Minimum Salary = 800
5. Average Salary = 49991
6. Numerical Count = 7167
7. No duplicate entries were discovered in the dataset.

- Visualization: I have created visualizations such as histograms, bar charts, and scatter plots to illustrate findings and aid interpretation.



After checking the scatter plot, I saw one salary offer at \$100, which seems unusually low and probably not important. So, I'll remove it before starting my analysis to ensure my conclusions are more accurate.

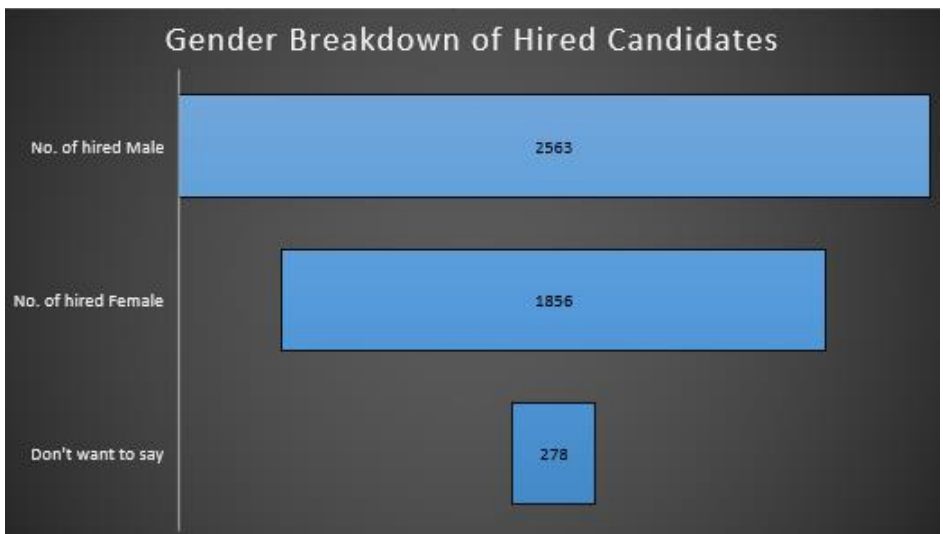
- Interpretation: Analysing of the visualizations and statistical results to draw insights and make recommendations.
- Documentation: Document the analysis process, findings, and conclusions for future reference and sharing with stakeholders.
- By following this approach, I'll be able to systematically analyse the hiring data, uncover valuable insights, and make informed decisions to improve recruitment strategies and employee management.

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TECH-STACK USED

- I use MS Word 2021, MS Excel 2021, LightShot, <https://remove.bg>, Google Drive and Notepad.
- I am deeply passionate about honing my skills with Excel and other related software tools.
- My goal is to steadily progress and refine my abilities until I reach a professional level of proficiency.

HIRING ANALYSIS



RESULT

- From the funnel chart, it's clear that the company hired 2563 males, 1856 females, and 278 individuals who preferred not to disclose their gender.

INSIGHTS

- Gender Distribution: The company's hiring process shows a significant representation of both males and females, with males comprising a larger portion of the hired candidates compared to females.
- However, it's noteworthy that there are also individuals who prefer not to disclose their gender, indicating a diverse workforce.
- However, further analysis could explore if there are any disparities in the hiring process based on gender and whether additional efforts are needed to promote diversity and inclusion.
- Overall, the hiring data provides valuable insights into the gender distribution of hired candidates and underscores the importance of fostering an inclusive work environment.

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SALARY ANALYSIS



RESULT

- Based on the clustered bar chart, it's evident that the average salaries for different positions vary significantly. Here are some key insights and findings:
- Salary Disparities: The chart shows a wide range of average salaries across different positions, ranging from \$0 to \$57,002. This indicates that there are significant salary disparities among various roles within the company.
- Variation in Compensation: Positions such as "n6 Position" and "c8 Position" have relatively higher average salaries compared to others, with values around \$44,700 and \$50,436, respectively.

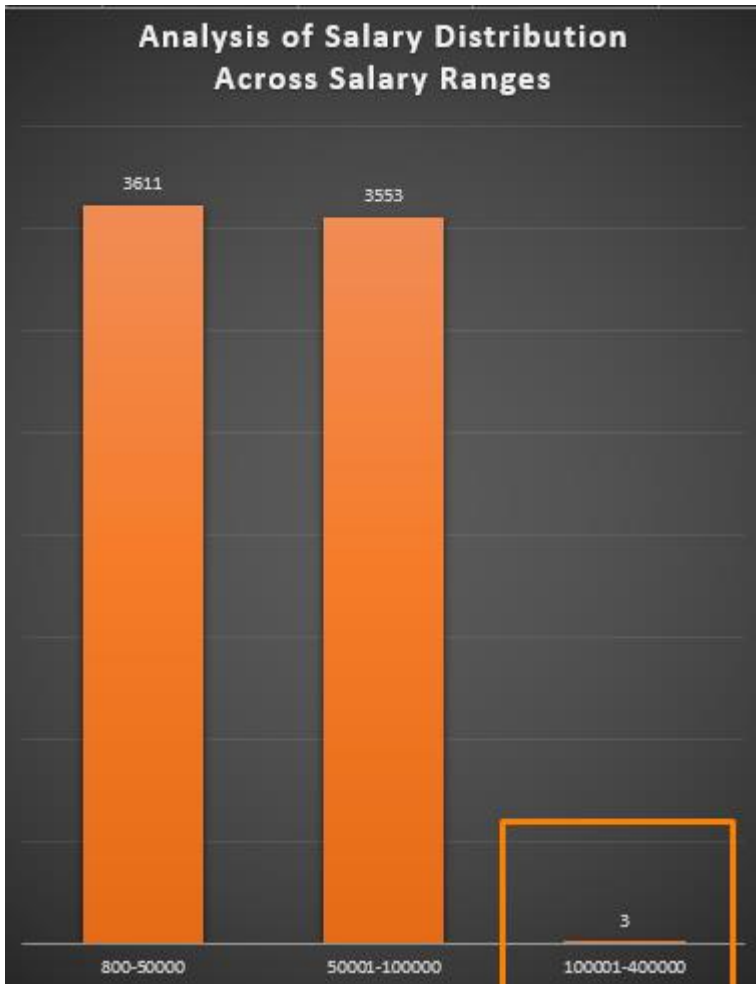
- But in general, the provided entry indicates a two female and one male hires in the Service and General Management for a position labelled as "b9, i4, i7" with an offered salary of 200,000, 400,000, 300,000, respectively. Higher salaries can elevate the averages, while lower salaries may have a mitigating effect.
- On the other hand, positions like "m6 Position" have notably lower average salaries, around \$17,549. When considering averages, this data point could impact the overall average salary for hires in the Service Department and specifically for the "m6" position.

INSIGHTS

- Importance of Role: The salary differences suggest that certain positions may be more critical or in-demand within the organization, leading to higher compensation. Positions with higher average salaries may require specialized skills, experience, or responsibilities.
- Equity Considerations: The disparities in average salaries across positions raise questions about equity and fairness in compensation practices. It's essential for organizations to ensure that salary structures are transparent, equitable, and based on factors such as job responsibilities, qualifications, and market standards.
- Opportunities for Improvement: The data highlights potential areas for improvement in compensation practices, such as addressing salary gaps between different positions and conducting regular reviews to ensure fairness and competitiveness in the market.
- Overall, the clustered bar chart provides valuable insights into the distribution of average salaries across various positions within the company, highlighting the importance of equitable compensation practices and opportunities for improvement.

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SALARY DISTRIBUTION



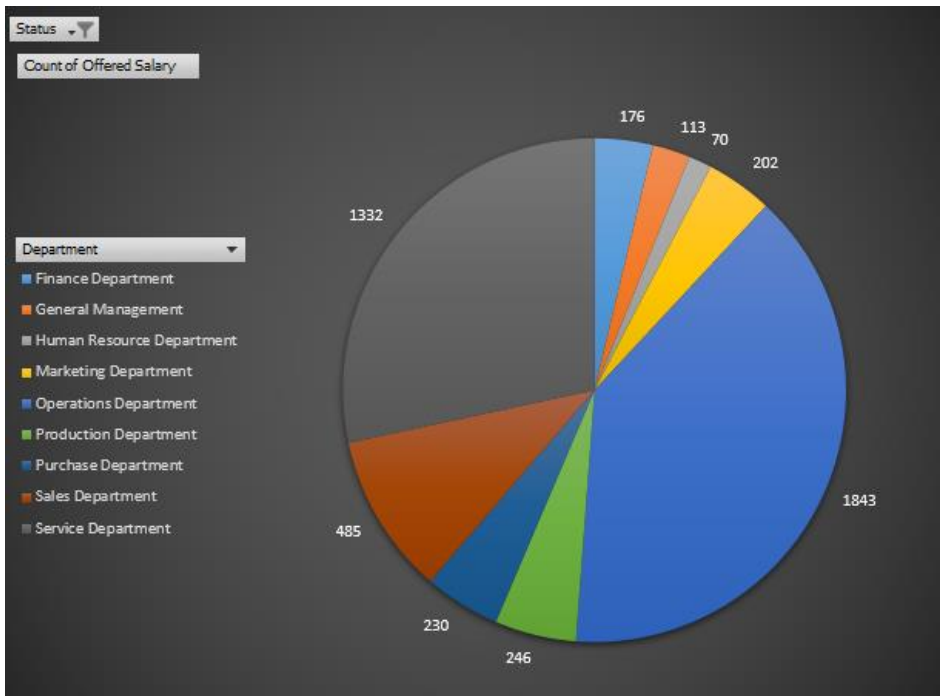
RESULT

- **Distribution of Salary Ranges:** The majority of employees fall into the salary range of \$800 to \$50,000, followed by the range of \$50,001 to \$100,000. However, there are significantly fewer employees in the higher salary range of \$100,001 to \$400,000.
- **Salary Distribution Pattern:** The data suggests that the company's salary distribution is skewed towards lower salary ranges, with a larger proportion of employees earning salaries between \$800 and \$100,000. This indicates that the majority of employees may be in lower or mid-level positions within the organization.

INSIGHTS

- **Potential Disparities:** The disparity in the distribution of employees across salary ranges raises questions about equity and fairness in compensation. It's important for the company to evaluate its salary structure to ensure that all employees are fairly compensated based on their roles, experience, and contributions.
- **Salary Benchmarking:** The data can be used for benchmarking against industry standards to assess the company's competitiveness in terms of salary offerings. It may also provide insights into areas where the company needs to adjust its compensation strategy to attract and retain top talent.
- **Overall,** the salary range data highlights the need for the company to review and potentially adjust its compensation practices to ensure fairness, competitiveness, and alignment with organizational goals and values.

DEPARTMENTAL ANALYSIS



RESULT

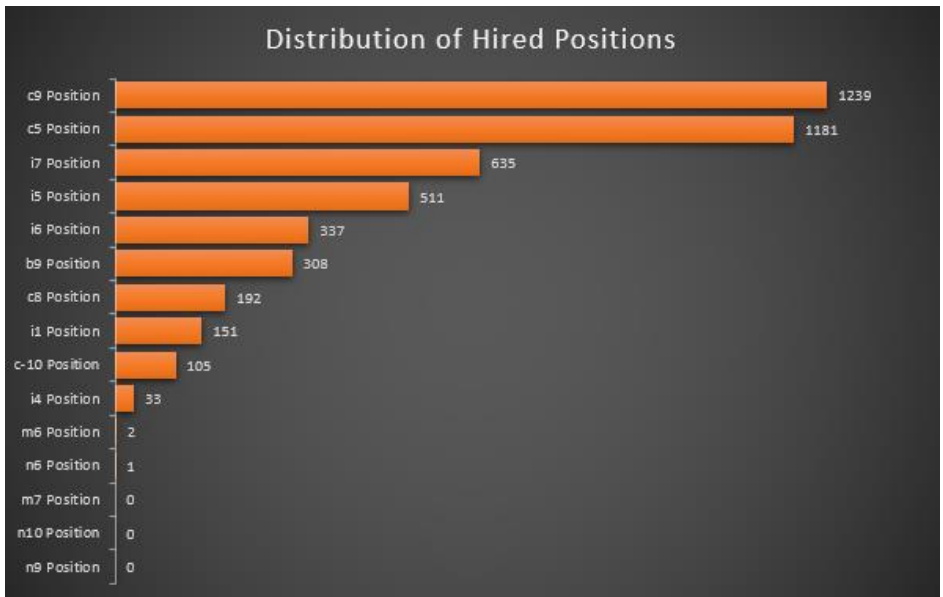
- Operations Dominance: The Operations Department stands out with the highest number of hired candidates, totalling 1843.
- Sales and Service Importance: The Sales Department follows closely behind with 485 hired candidates, indicating the significance of sales roles within the company.
- The Marketing Department and Production Department also show significant hiring activity, with 202 and 246 hired candidates respectively.

INSIGHTS

- The data on hired candidates across different departments provides valuable insights into the company's hiring trends:
- The operations-related roles are in high demand within the organization, possibly indicating the company's focus on production, logistics, or other operational aspects.
- The Service Department has a substantial number of hired candidates at 1332, highlighting the importance of customer service and support functions.
- The Marketing Department and Production Department suggests that the company is investing in marketing efforts to promote its products or services, and production roles to meet demand.
- Departments such as Finance, General Management, Human Resources, Purchase, and Service have moderate hiring numbers ranging from 70 to 230. These departments play crucial roles in supporting the organization's core operations and ensuring its smooth functioning.
- Analysing hiring trends across departments can help identify potential growth areas within the company. For instance, if certain departments consistently show higher hiring numbers over time, it may indicate areas where the company is expanding or investing resources.
- Overall, the data underscores the importance of various departments in contributing to the company's success and highlights potential areas for strategic focus and resource allocation.

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POSITION TIER ANALYSIS



RESULT

- Certain positions, such as "c9 Position" and "c5 Position," have the highest number of hires, with 1239 and 1181 respectively.
- Positions such as "i7 Position" and "i5 Position" also show significant hiring levels, with 635 and 511 hires respectively.
- The number of hires gradually decreases as we move towards positions labelled "i4 Position" (33 hires), "c8 Position" (192 hires), and "b9 Position" (308 hires).
- The candidate hired for the General Management position (position labelled "i4"), who was offered a salary 400000 indicates that salary offers may vary based on factors such as job role, experience, or skill level.

INSIGHTS

- "c9 Position" and "c5 Position," suggests that these positions may be critical roles within the organization or may have a higher demand due to specific job requirements.
- Positions such as "i7 Position" and "i5 Position" indicates a substantial workforce requirement for roles associated with these positions, possibly in technical or specialized areas.
- The gradually decreases towards positions labelled "i4 Position", "c8 Position", and "b9 Position" suggest a decreasing demand for candidates in these particular positions or a shift in organizational priorities.
- Several positions, such as "n9 Position," "n10 Position," and "m7 Position," have no hires recorded indicating either a lack of need for candidates in these positions or positions that are newly created or less frequently filled.
- The offered salaries vary among the hires, ranging from \$99,948 to \$400,000. This indicates that the company offers competitive compensation packages tailored to the roles and responsibilities of each position.
- Different positions "b9" and "i4," are filled across departments, suggesting a need for diverse skill sets and expertise within each functional area.
- While specific trends may not be evident from the limited data provided, further analysis could reveal potential patterns or disparities in salary offerings or position allocations based on department. It could delve deeper into these aspects to inform strategic decisions related to recruitment, compensation, and talent management.

- Overall, the data provides insights into the distribution of hires across different positions within the company, highlighting areas of high demand as well as positions with limited or no hiring activity. This information can be valuable for workforce planning, resource allocation, and identifying potential areas for recruitment and talent development.

CONCLUSIONS

- Various departments showed differing levels of hiring activity, with some departments having higher demand for candidates compared to others. This highlights the importance of aligning recruitment efforts with departmental needs.
- The intricate interrelation between each position and department underscores an environment conducive to enhancing the company's overall performance.
- This synergy fosters collaboration and efficiency, allowing for optimal utilization of skills and resources across all levels of the organization. Such cohesion not only promotes a cohesive work environment but also enables the company to leverage diverse expertise and perspectives, ultimately driving towards improved outcomes and success.
- The analysis provided insights into the effectiveness of the company's recruitment strategies, identifying areas of strength and potential areas for improvement in attracting and selecting candidates.
- Moving forward, the company may consider refining its recruitment processes, addressing any disparities in gender representation or salary offerings, and continuously evaluating departmental needs to ensure a well-rounded and efficient hiring process.

- Overall, the hiring process analysis offers valuable insights that can inform strategic decisions aimed at optimizing recruitment practices, fostering diversity and inclusion, and ultimately enhancing organizational success.



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TheEnd

