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Hiring Process Analytics

Objective:

The objective of this project is to analyze the hiring process data of a multinational company to identify key trends and insights. The goal is to provide actionable recommendations that can help improve the company's hiring process.

Approach Overview:

The project uses Microsoft Excel for data analysis to answer specific questions about the hiring process. We will handle missing data, detect and remove outliers, summarize the data, and create visualizations to understand key trends.

Data Handling:

- **Missing Data Handling:**
  Checked the dataset for any missing values. Decided to handle missing data by either imputing with the mean/median (if numeric) or mode (if categorical) or by removing rows with significant missing information.
- **Clubbing Columns:**
  Combined similar categories in columns (if applicable) to simplify analysis. For example, grouped similar job types or departments if needed.
- **Outlier Detection:**
  Used statistical measures like the interquartile range (IQR) to detect outliers in the salary and interview scores data.

- **Outlier Removal:**
  Decided to remove outliers that significantly skew the data or keep them based on their impact on the analysis.

Data Summary and Visualization:

- Calculated averages, medians, and other statistical measures to summarize the data.
- Created visualizations (like pie charts, bar graphs) to illustrate data trends, such as the distribution of hires by gender, average salaries, department-wise distribution, and position tiers.

Tech-Stack Used:

- **Microsoft Excel 2007:**
  Used for data cleaning, handling missing values, performing calculations, and creating PivotTables and visualizations.

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?

Formula Used:

Males hired:

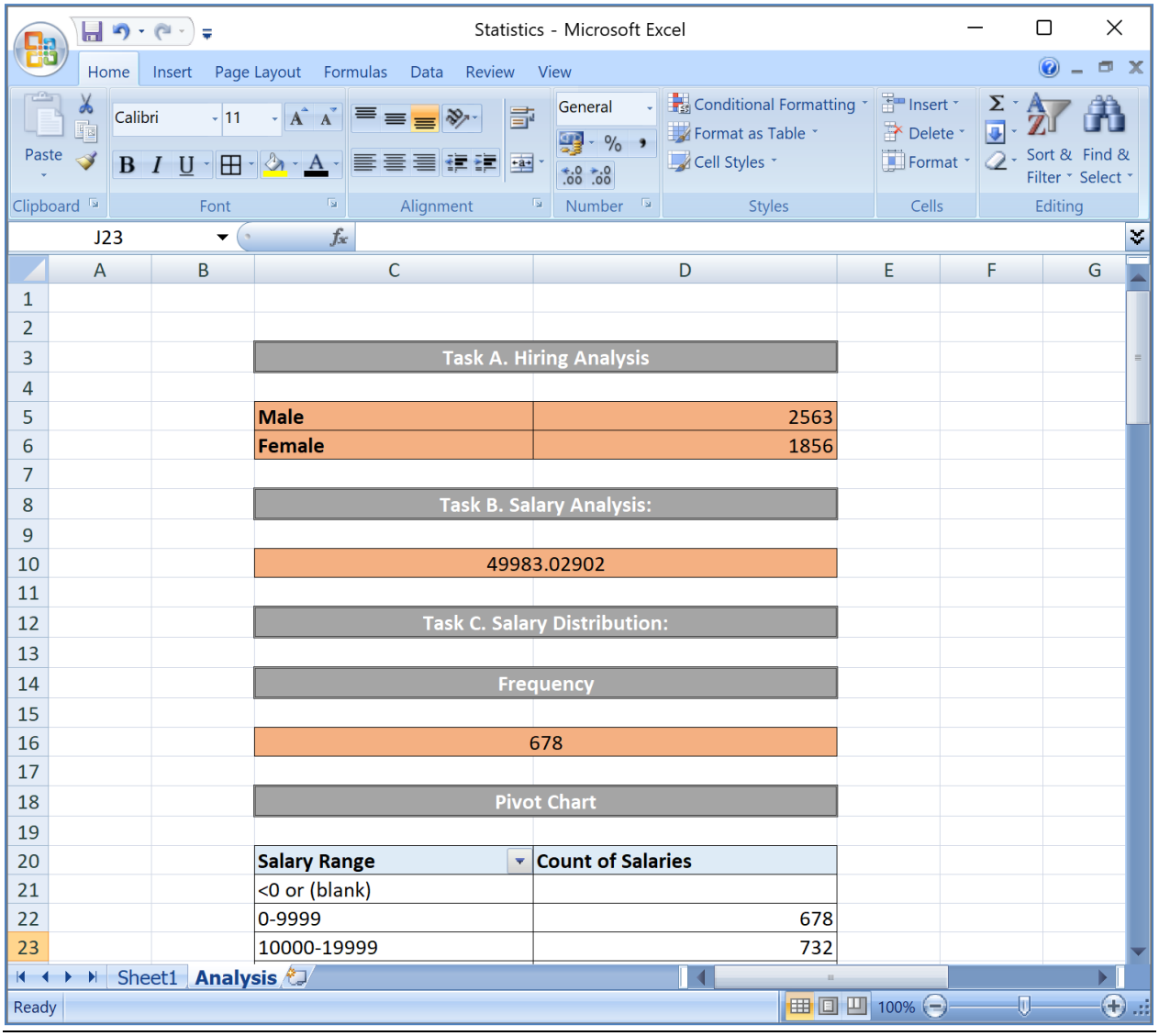
=COUNTIFS(Sheet1!C2:C7169, "Hired",Sheet1!D2:D7169, "Male")

Females hired:

=COUNTIFS(Sheet1!C3:C7170, "Hired",Sheet1!D3:D7170, "Female")

Task A. Hiring Analysis	

Male	2563
Female	1856



Insight: The gender distribution indicates a balanced hiring process or highlights a preference that can be addressed for diversity.

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.

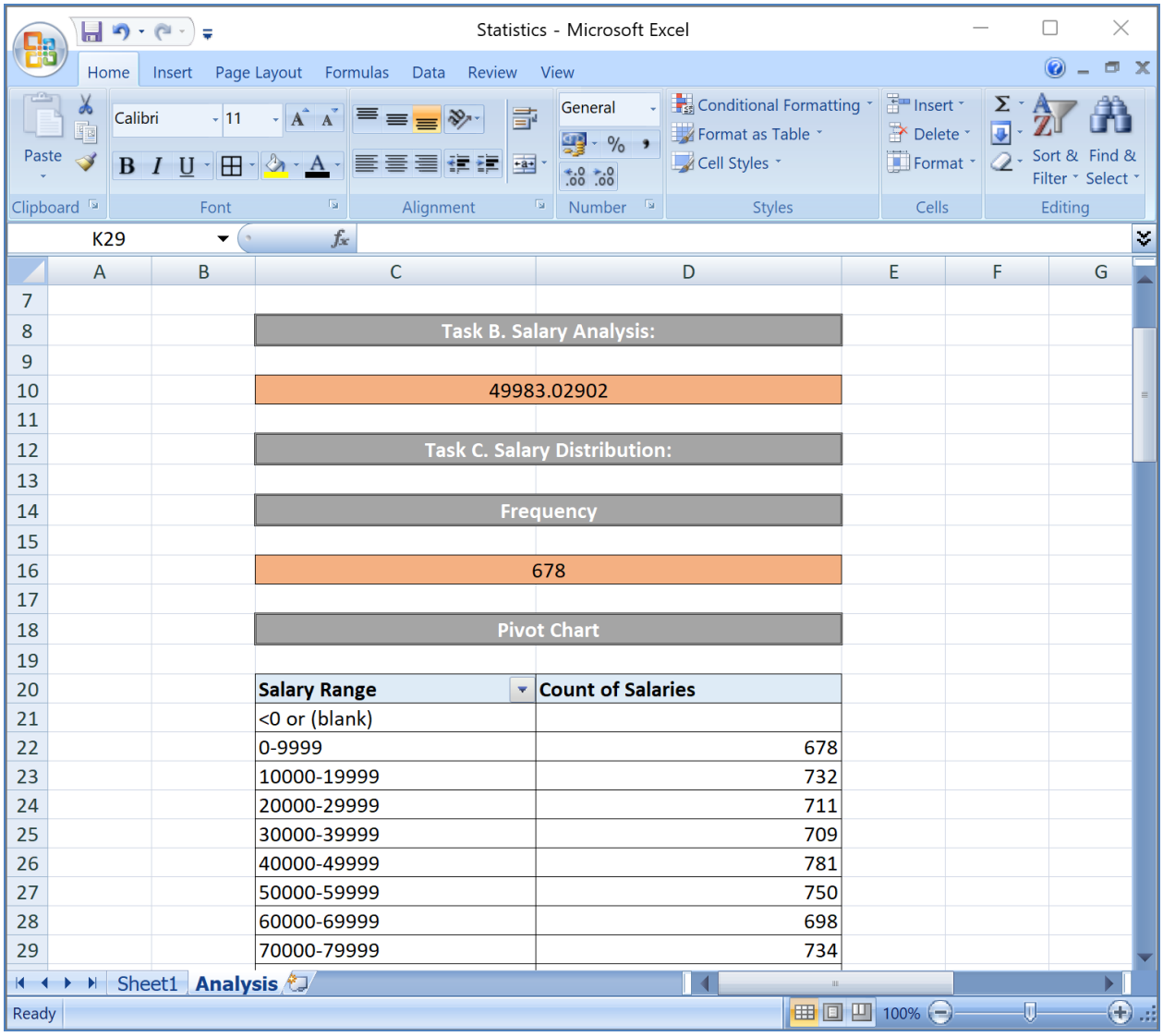
Your Task: What is the average salary offered by this company? Use Excel functions to calculate this.

Formula Used:

Average Salary Offered By This Company:

=AVERAGE(Sheet1!G1:G7169)

Task B. Salary Analysis:
49983.02902



Insight: Provides an overview of the company's salary competitiveness in the market.

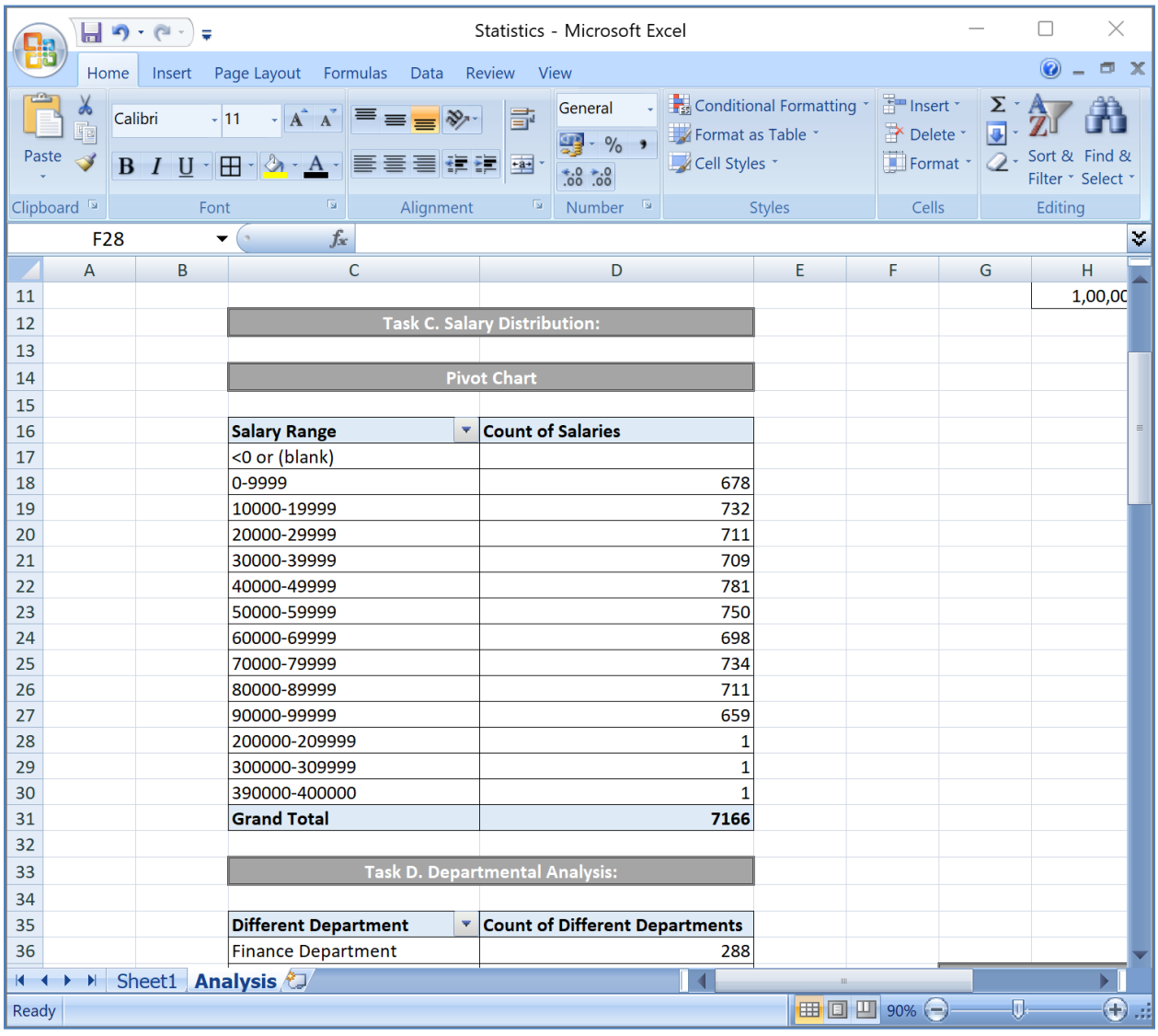
C. Salary Distribution:

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.

Steps Used for Pivot Chart:

1. Select salary data.
2. Go to Insert > PivotTable and choose the desired location.
3. Drag the "Offered Salary" field to both the "Rows" and "Values" areas.
4. Right-click on any salary in the PivotTable, select "Group," and choose your class intervals.



Insight: Shows the distribution of salaries and identifies any significant gaps or clusters.

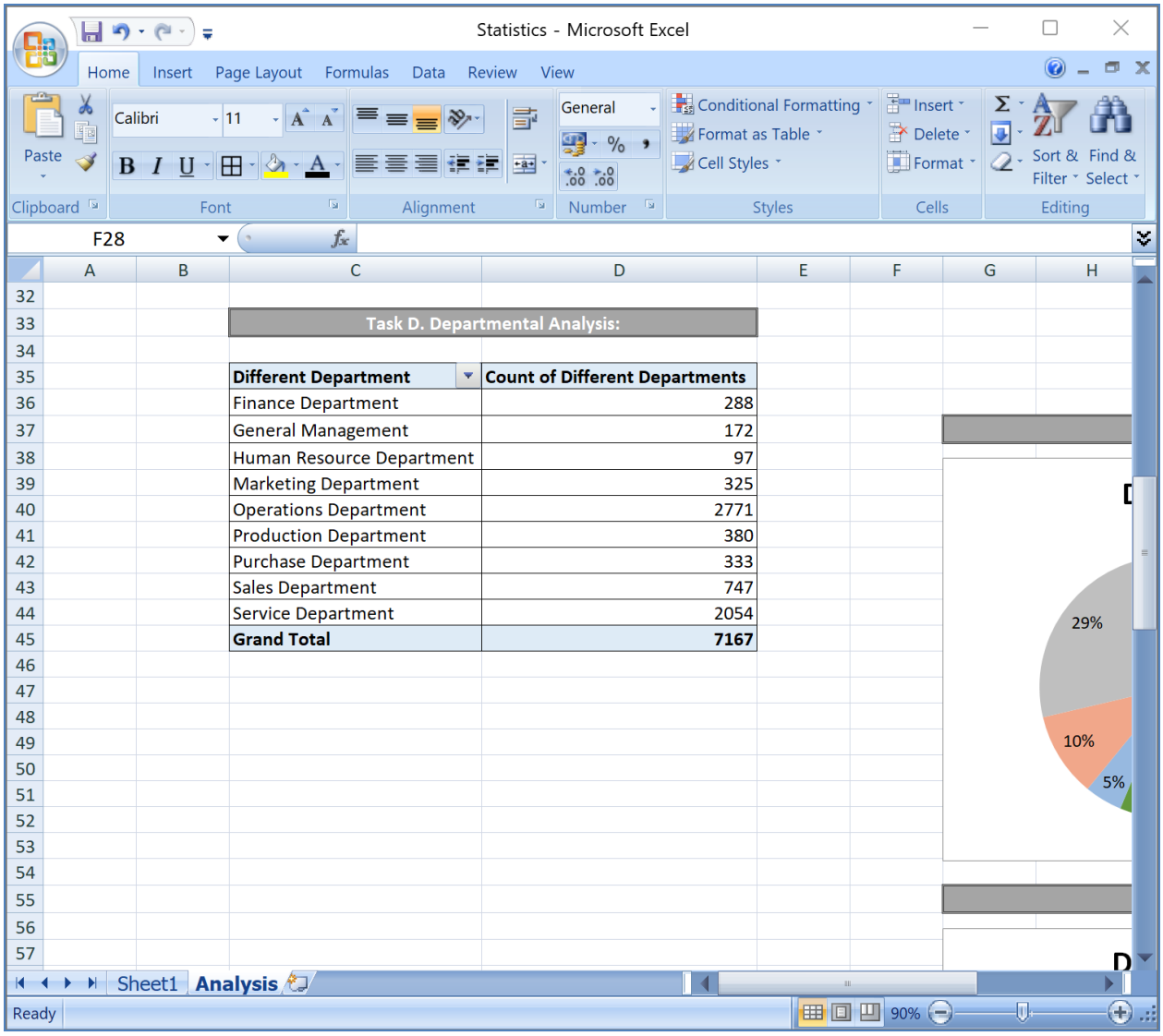
D. Departmental Analysis:

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.

Step-by-Step Guide:

1. **Insert a PivotTable:**
    - Go to the Insert tab on the Excel ribbon.
    - Click on PivotTable.
    - Choose where you want to place the PivotTable
    - Click OK.
2. **Configure the PivotTable:**
    - In the PivotTable Fields pane, drag the "Department" field to the "Rows" area.
    - Drag the "Department" field again to the "Values" area to count the number of employees in each department. Excel will automatically count the occurrences.
3. **Create a Pie Chart and Bar Graph:**
    - Click anywhere inside the PivotTable.
    - Go to the Insert tab.
    - Choose Pie Chart and Bar Graph from the Chart options.
    - Select the desired chart type to visualize the department distribution.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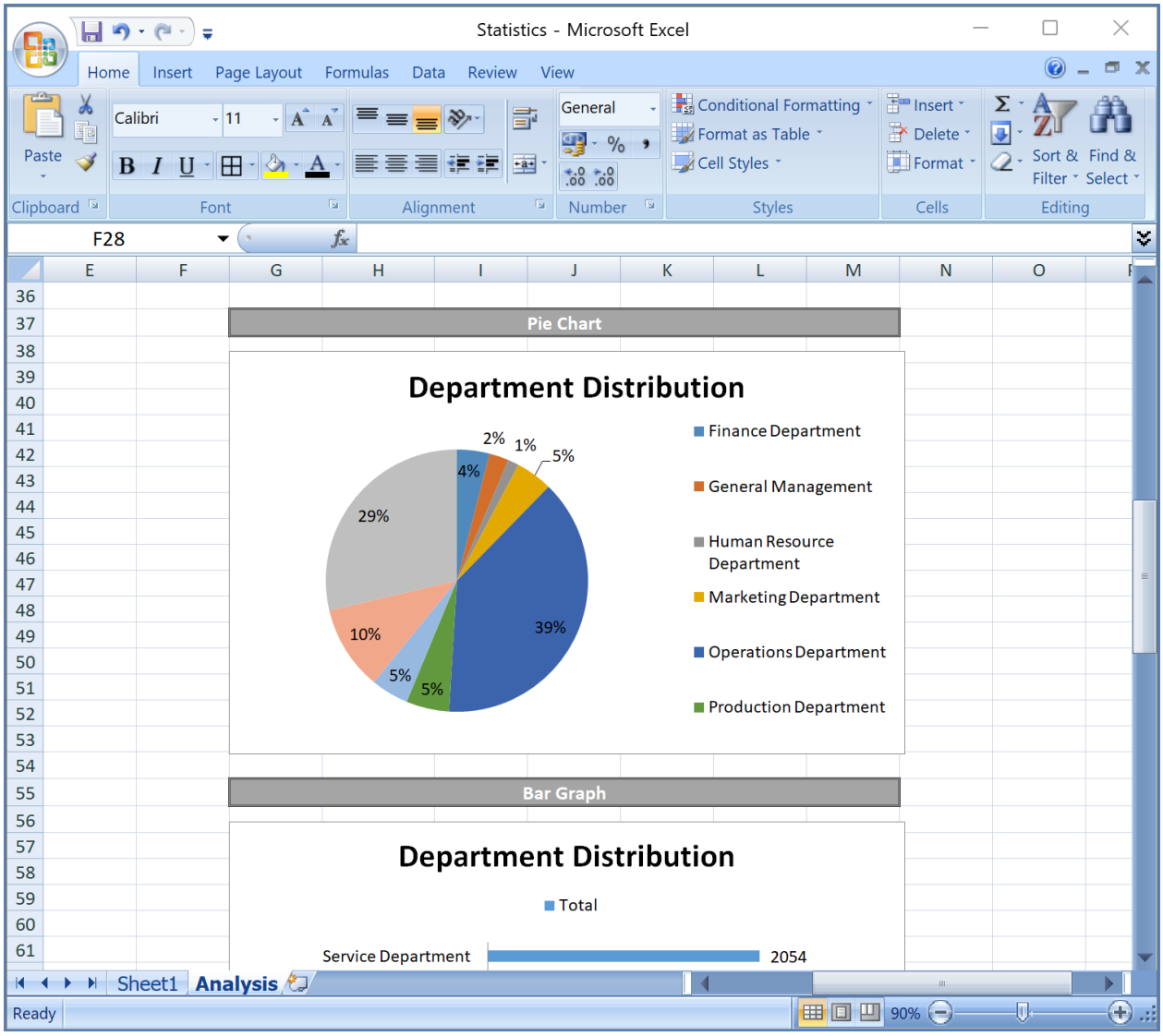
Task D. Departmental Analysis:
Different Department
Count of Different Departments
Finance Department 288
General Management 172
Human Resource Department 97
Marketing Department 325
Operations Department 2771
Production Department 380
Purchase Department 333
Sales Department 747
Service Department 2054
Grand Total 7167
29%
10%
5%
Sheet1
Analysis
Ready
90%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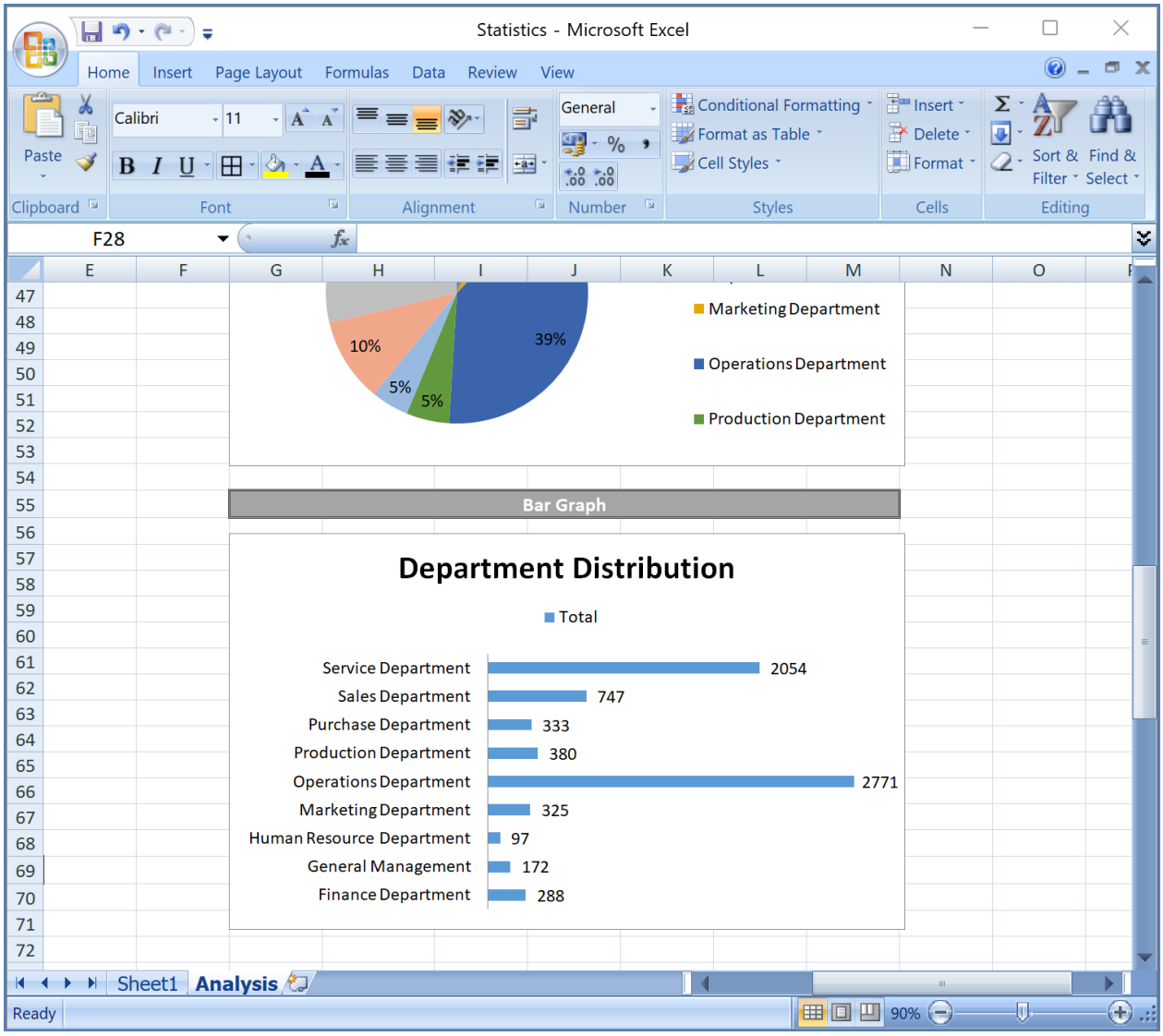
Pie Chart
Department Distribution
2%
1%
5%
4%
29%
10%
5%
5%
39%
Finance Department
General Management
Human Resource Department
Marketing Department
Operations Department
Production Department
Bar Graph
Department Distribution
Total
Service Department
2054
Sheet1
Analysis
Ready
90%



Insight: Helps identify which departments are growing or need more resources.

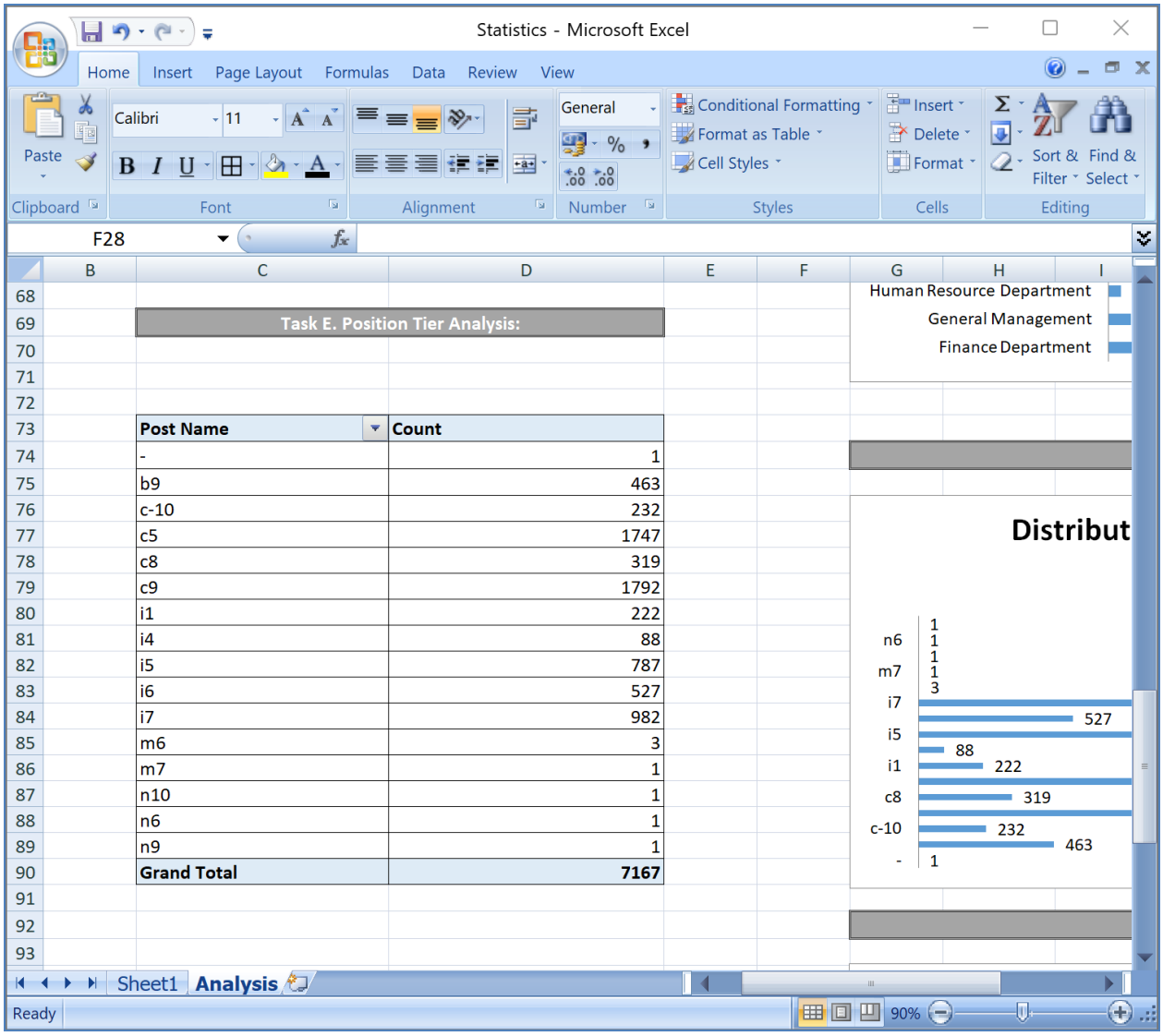
E. Position Tier Analysis:

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.

Step-by-Step Guide:

1. **Insert a PivotTable:**
   - Go to the Insert tab on the Excel ribbon.
   - Click on PivotTable.
   - Choose where you want to place the PivotTable.
   - Click OK.
2. **Configure the PivotTable:**
   - In the PivotTable Fields pane, drag the "Post Name" field to the "Rows" area.
   - Drag the "Post Name" field again to the "Values" area. Excel will automatically count the number of occurrences for each position tier.
3. **Create a Chart:**
   - Click anywhere inside the PivotTable.
   - Go to the Insert tab.
   - Choose a Bar Graph and Pie Chart from the Chart options to represent the distribution of different position tiers.
   - Select the desired chart type to create a visual representation.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Task E. Position Tier Analysis:
Post Name
Count
- 1
b9 463
c-10 232
c5 1747
c8 319
c9 1792
i1 222
i4 88
i5 787
i6 527
i7 982
m6 3
m7 1
n10 1
n6 1
n9 1
Grand Total 7167
Human Resource Department
General Management
Finance Department
Distribut
n6 1
1
m7 1
1
i7 3
527
i5
88
i1 222
c8 319
c-10 232
463
- 1
Sheet1
Analysis
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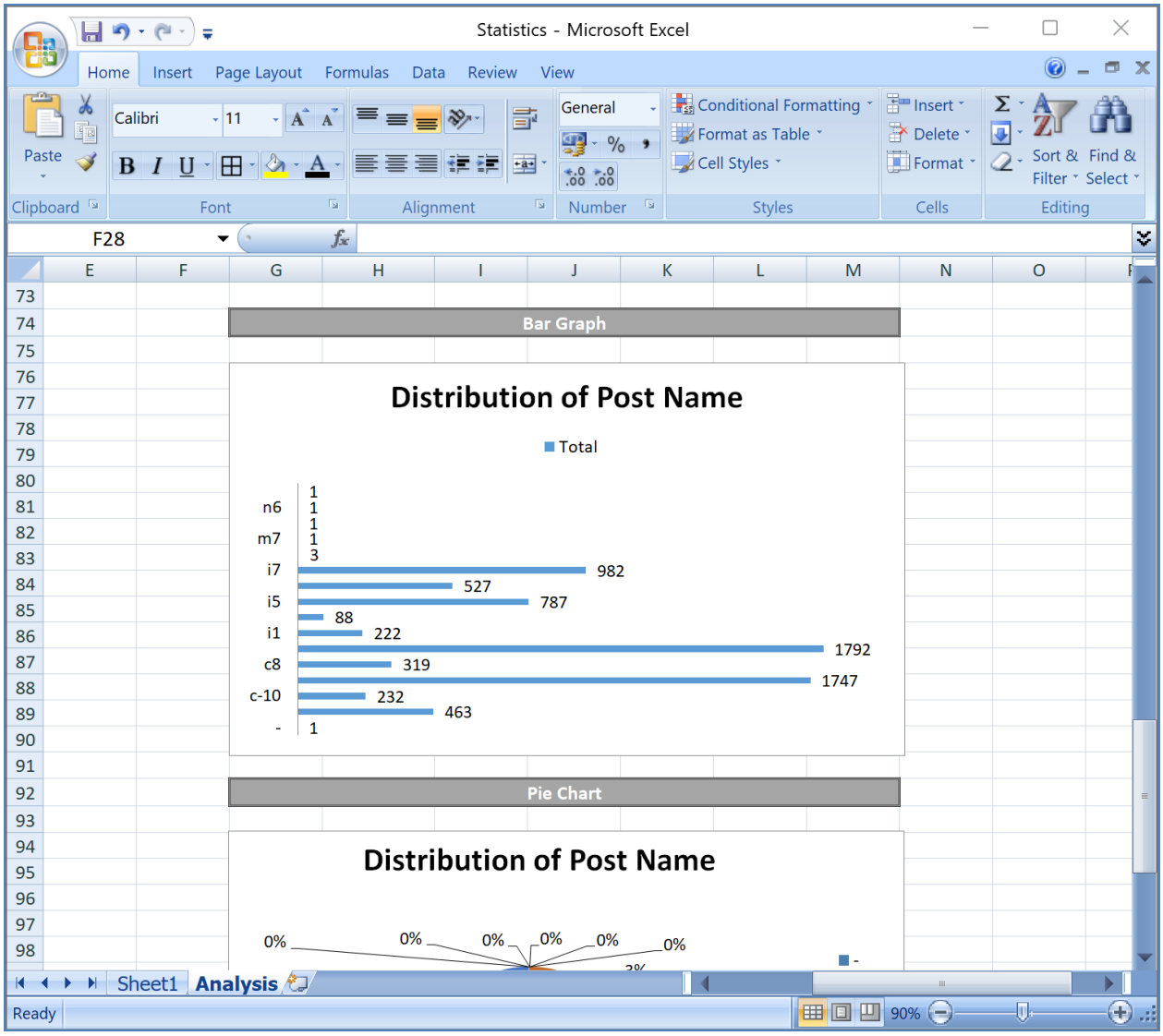
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Bar Graph
Distribution of Post Name
Total
n6
m7
i7
i5
i1
c8
c-10
-
1
1
1
1
3
982
527
787
88
222
1792
319
1747
232
463
1
Pie Chart
Distribution of Post Name
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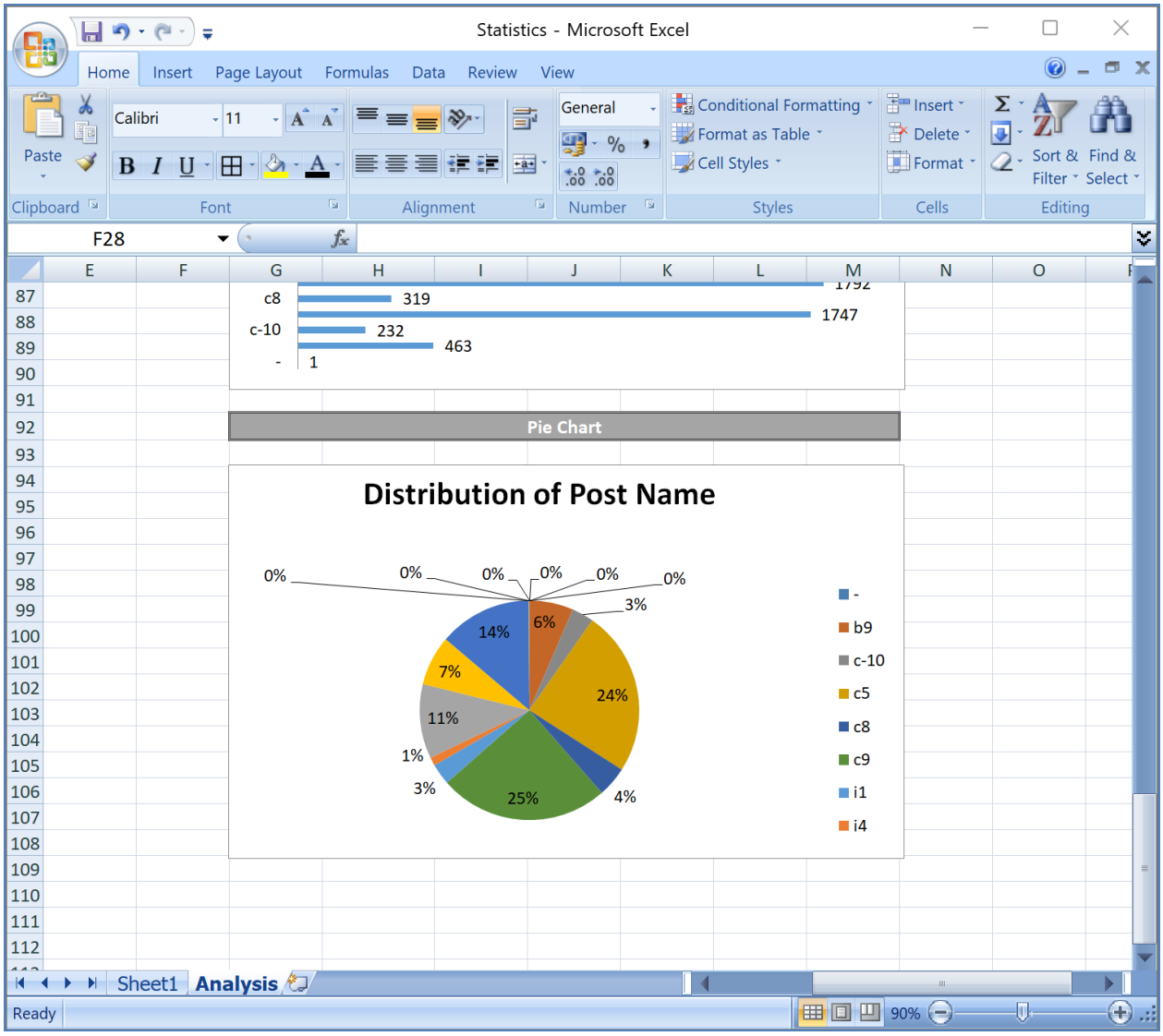
0%
0%
0%
0%
0%
Sheet1
Analysis
Ready
90%



Insight: Provides clarity on organizational structure and highlights any imbalances in hiring across different levels.

Results:

- Successfully identified key insights related to the company's hiring process.
- Recommended actions for improving the hiring process based on data trends:
    - Address any gender imbalances.
    - Review salary ranges to ensure market competitiveness.
    - Optimize resource allocation across departments.
    - Balance the distribution of positions across different tiers.

Hyperlink:

Solution is in sheet name: **Analysis**

https://docs.google.com/spreadsheets/d/1GZITMu7aLOQLRKoQTa1DzxtD8OCymVJt/edit?usp=sharing&ouid=107712337603641298783&rtpof=true&sd=true

Conclusion:

This project successfully analyzed the hiring process data of a multinational company, revealing several key insights that can help refine and improve the company's approach to hiring. The analysis of gender distribution suggested the need to further evaluate hiring diversity. The average salary data provided an overview of the company's competitive standing in the job market, while the salary distribution analysis identified specific gaps or clusters that warrant further consideration.

Departmental analysis using pie charts and bar graphs highlighted areas of growth and departments that may require additional resources. Similarly, the position tier analysis provided clarity on the distribution of roles across different tiers within the organization, helping to identify any imbalances or areas that need adjustment.

Based on these findings, the following actionable recommendations were made: address gender imbalances in hiring, review and adjust salary ranges to enhance market competitiveness, optimize resource allocation across departments, and ensure a balanced distribution of positions across different levels.

By applying these recommendations, the company can enhance its hiring strategy, promote diversity, maintain salary competitiveness, and better align organizational resources, ultimately improving the efficiency and effectiveness of its hiring process.