Hiring Process Analytics

Statistics

Project Description:

The task is to analyze 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.
We are given a dataset containing records of previous hires. Using this data, we analyze and answer certain questions that can help the company improve its hiring process.

Approach:

We start by downloading the provided dataset and loading it on excel.
Next, we check for any blanks or discrepancies in the data and take care of it.
We insert the data into a table.
Further we create various pivot tables according to our requirements.
We make use of Excel functions to derive insights from the data and show them graphically using various charts.

Tech-Stack Used:

Microsoft 360

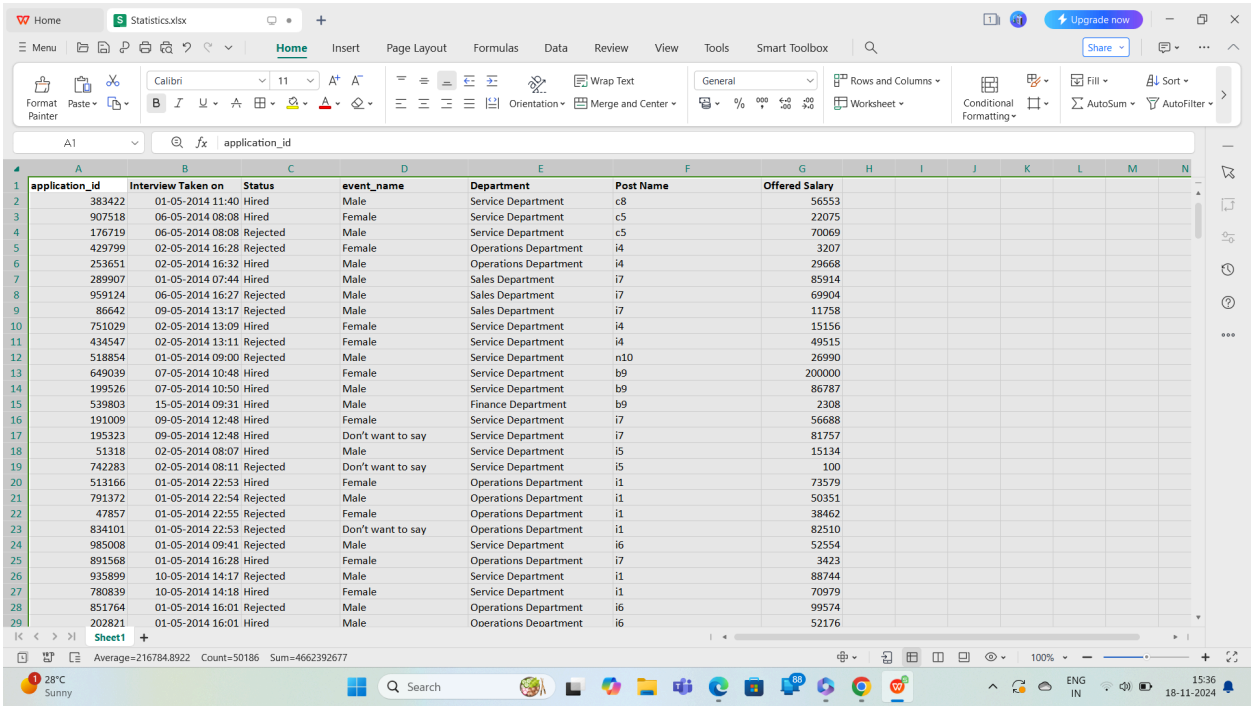
Version : 18.2411.1091.0
Correlation ID : 2b073c3b-6872-414c-a8af-641736330c83
Session ID : c30083e0-3042-4352-a989-bfb6048f4c76

Excel

Insights:

Loading the dataset in excel file:

We start by opening Microsoft 360, then click on Excel.
When the window opens, we click on Upload → Locate our file → Press Okay.



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	i7	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	Don't want to say	Service Department	i7	81757
51318	02-05-2014 08:07	Hired	Male	Service Department	i5	15134
742283	02-05-2014 08:11	Rejected	Don't want to say	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
851764	01-05-2014 16:01	Rejected	Male	Operations Department	i6	99574
202821	01-05-2014 16:01	Hired	Male	Operations Department	i6	52176

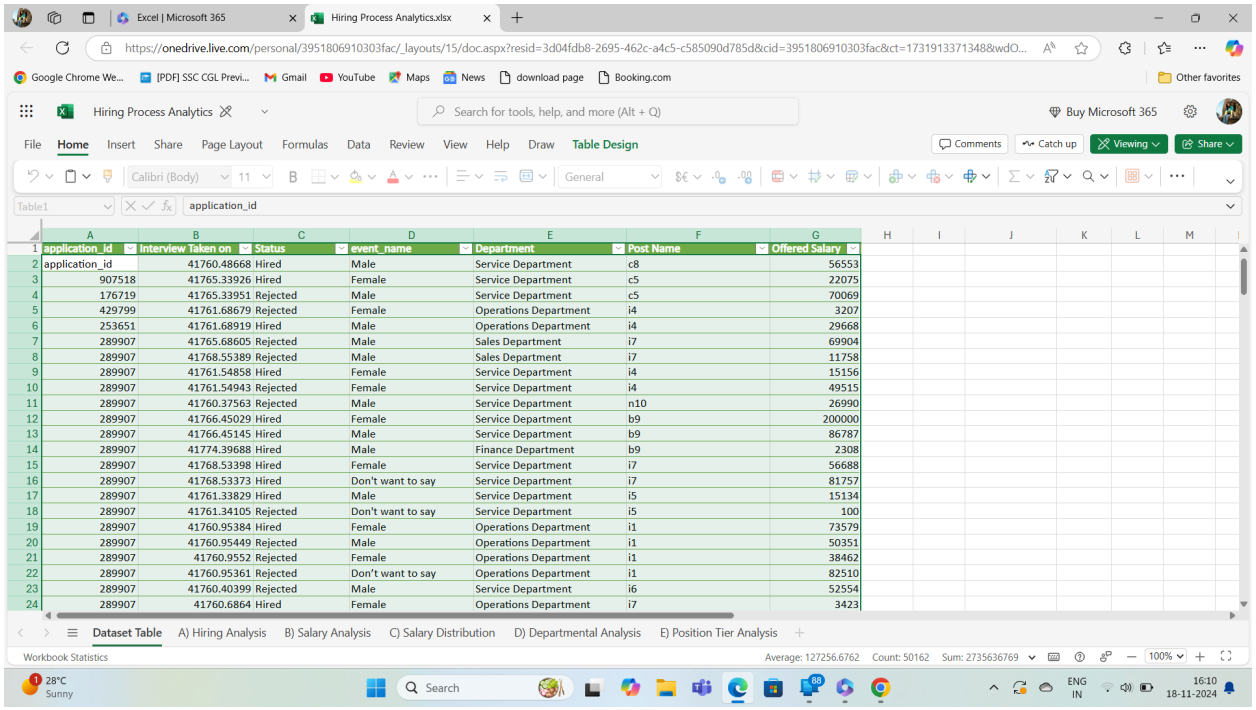
Handling Missing Data:

Use FIND AND REPLACE to replace unwanted characters or missing values. Select the range (column or row) you want to search within then visit the FIND AND SELECT option on the HOME tab. Select REPLACE and provide the dialog box with the characters/string to search for and the value to replace it with.
You can either delete the rows with missing values or replace those cells with MEAN or MODE values of the column.

Inserting a Table:

Select the complete data, then go to the insert tab, then click on the table option.

Your table has been created.
You can rename and customize your tale according to your desire.



application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
application_id	41760.48668	Hired	Male	Service Department	c8	56553
907518	41765.33926	Hired	Female	Service Department	c5	22075
176719	41765.33951	Rejected	Male	Service Department	c5	70069
429799	41761.68679	Rejected	Female	Operations Department	i4	3207
253651	41761.68919	Hired	Male	Operations Department	i4	29668
289907	41765.68605	Rejected	Male	Sales Department	i7	69904
289907	41768.55389	Rejected	Male	Sales Department	i7	11758
289907	41761.54858	Hired	Female	Service Department	i4	15156
289907	41761.54943	Rejected	Female	Service Department	i4	49515
289907	41760.37563	Rejected	Male	Service Department	n10	26990
289907	41766.45029	Hired	Female	Service Department	b9	200000
289907	41766.45145	Hired	Male	Service Department	b9	86787
289907	41774.39688	Hired	Male	Finance Department	b9	2308
289907	41768.53398	Hired	Female	Service Department	i7	56688
289907	41768.53373	Hired	Don't want to say	Service Department	i7	81757
289907	41761.33829	Hired	Male	Service Department	i5	15134
289907	41761.34105	Rejected	Don't want to say	Service Department	i5	100
289907	41760.95384	Hired	Female	Operations Department	i1	73579
289907	41760.95449	Rejected	Male	Operations Department	i1	50351
289907	41760.9552	Rejected	Female	Operations Department	i1	38462
289907	41760.95361	Rejected	Don't want to say	Operations Department	i1	82510
289907	41760.40399	Rejected	Male	Service Department	i6	52554
289907	41760.6864	Hired	Female	Operations Department	i7	3423

Dataset Table: [Hiring Process Analytics.xlsx]

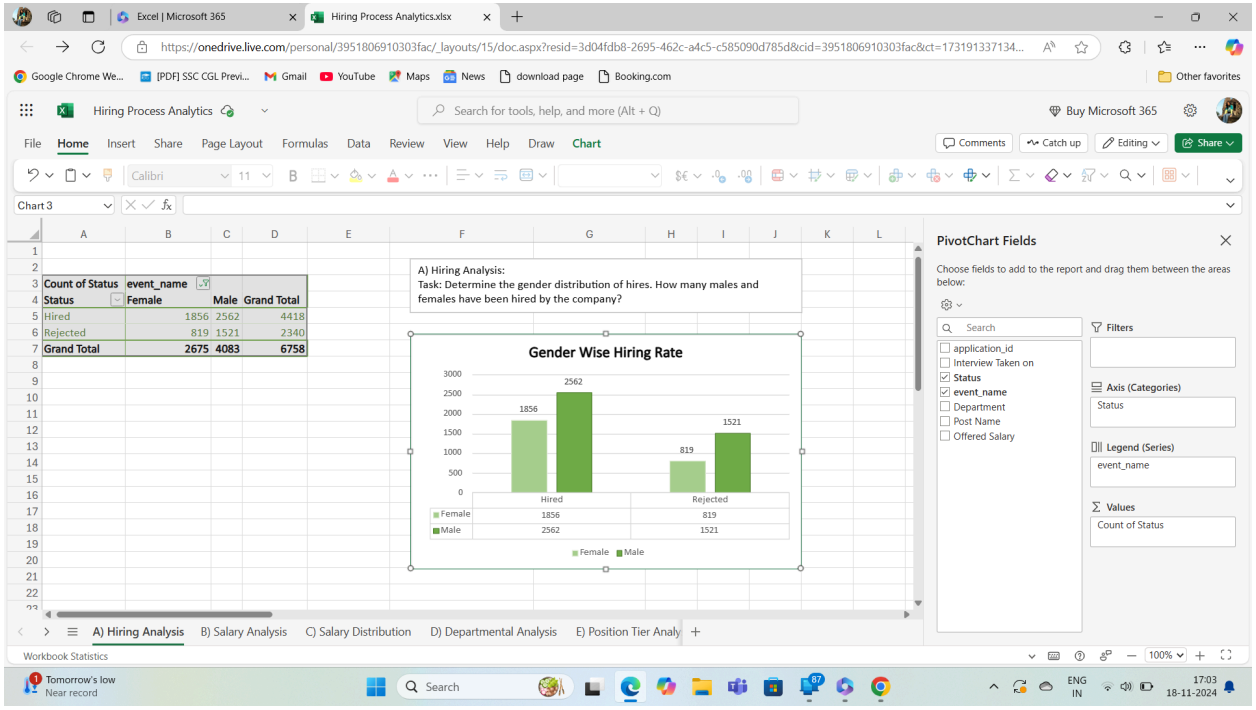
Pivot Table:

A PivotTable is an interactive way to quickly summarize large amounts of data. You can use a PivotTable to analyze numerical data in detail, and answer unanticipated questions about your data. A PivotTable is especially designed for: Querying large amounts of data in many user-friendly ways.
To make a Pivot table, select your table or columns that you need, go to Insert, click on PivotTable.
You get the option to create the Pivot table on a new spreadsheet or existing sheet. In that case you have to mention the location on the sheet.
Once the Pivot table has been created, you can rename and customize it according to requirement.

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?



Count of Status	event_name		
Status	Female	Male	Grand Total
Hired	1856	2562	4418
Rejected	819	1521	2340
Grand Total	2675	4083	6758

We have adjusted the status column in **Axis(Categories)** and event_name in **Legend(Series)**.

In ∑ **Values**, we get count of status.

The values are visible in the adjacent table.

We use this data from the pivot table to insert in a chart.

Here, we have used a **Clustered Column** chart.

Result:

Out of a total of 2675, 1856 females have been hired while 819 females have been rejected.

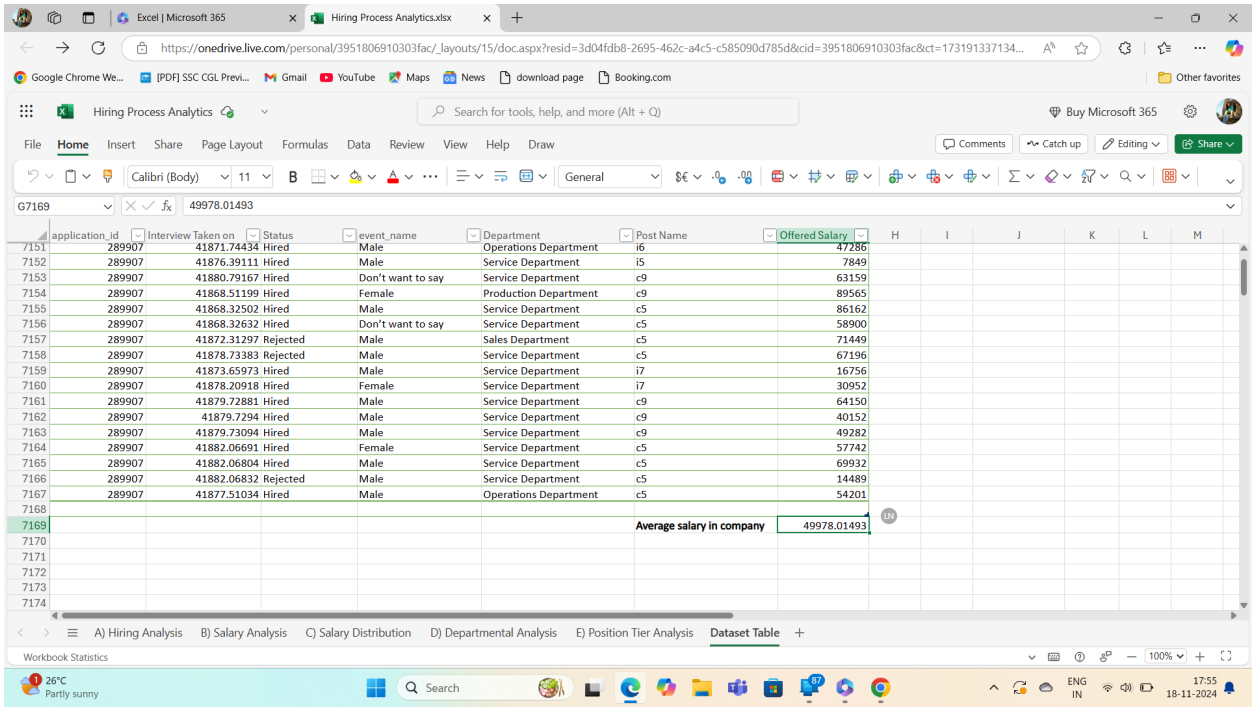
Meanwhile, out of a total of 4083, 2562 males have been hired while 1521 males have been rejected.

In total out of 6758, 4418 people have been hired and 2340 people were rejected.

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.



application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
289907	41871.74434	Hired	Male	Operations Department	i6	47286
289907	41876.39111	Hired	Male	Service Department	i5	7849
289907	41880.79167	Hired	Don't want to say	Service Department	c9	63159
289907	41868.51199	Hired	Female	Production Department	c9	89565
289907	41868.32502	Hired	Male	Service Department	c5	86162
289907	41868.32632	Hired	Don't want to say	Service Department	c5	58900
289907	41872.31297	Rejected	Male	Sales Department	c5	71449
289907	41878.73383	Rejected	Male	Service Department	c5	67196
289907	41873.65973	Hired	Male	Service Department	i7	16756
289907	41878.20918	Hired	Female	Service Department	i7	30952
289907	41879.72881	Hired	Male	Service Department	c9	64150
289907	41879.7294	Hired	Male	Service Department	c9	40152
289907	41879.73094	Hired	Male	Service Department	c9	49282
289907	41882.06691	Hired	Female	Service Department	c5	57742
289907	41882.06804	Hired	Male	Service Department	c5	69932
289907	41882.06832	Rejected	Male	Service Department	c5	14489
289907	41877.51034	Hired	Male	Operations Department	c5	54201
					Average salary in company	49978.01493

We use the Average function to find the average salary offered by the company.
AVERAGE(number1, [number2], ...).

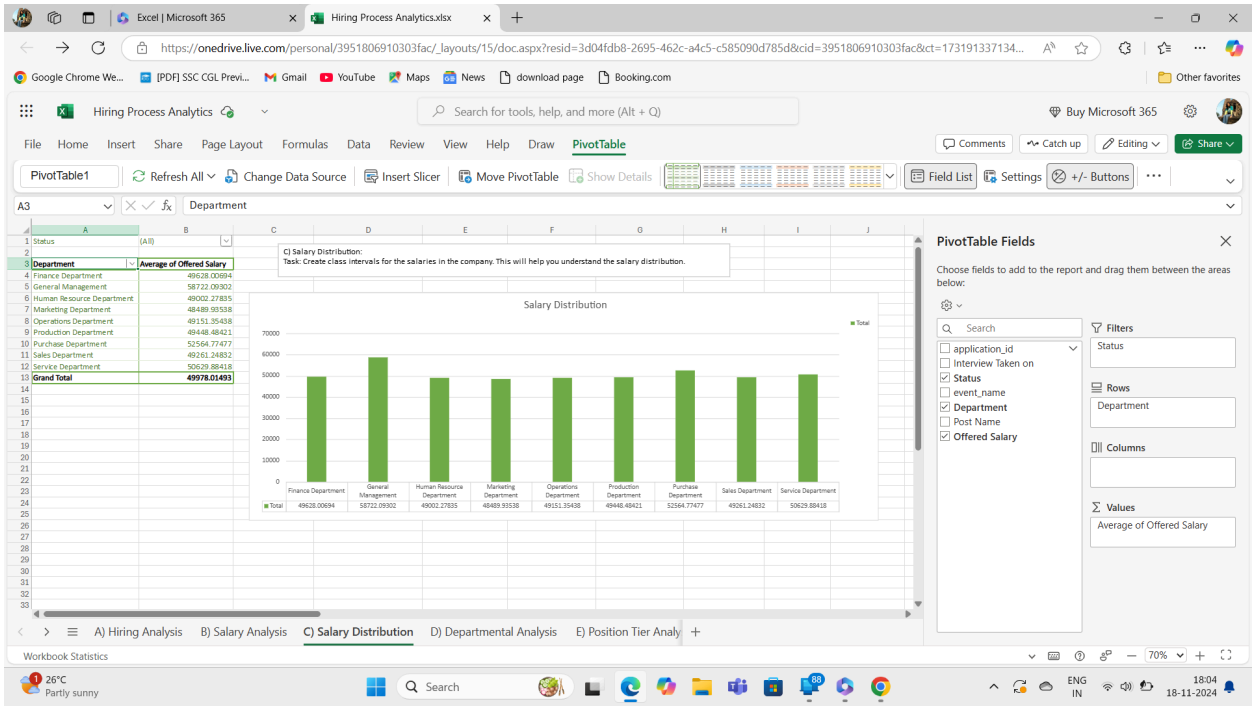
Result:

Average salary offered by the company is 49978.

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.



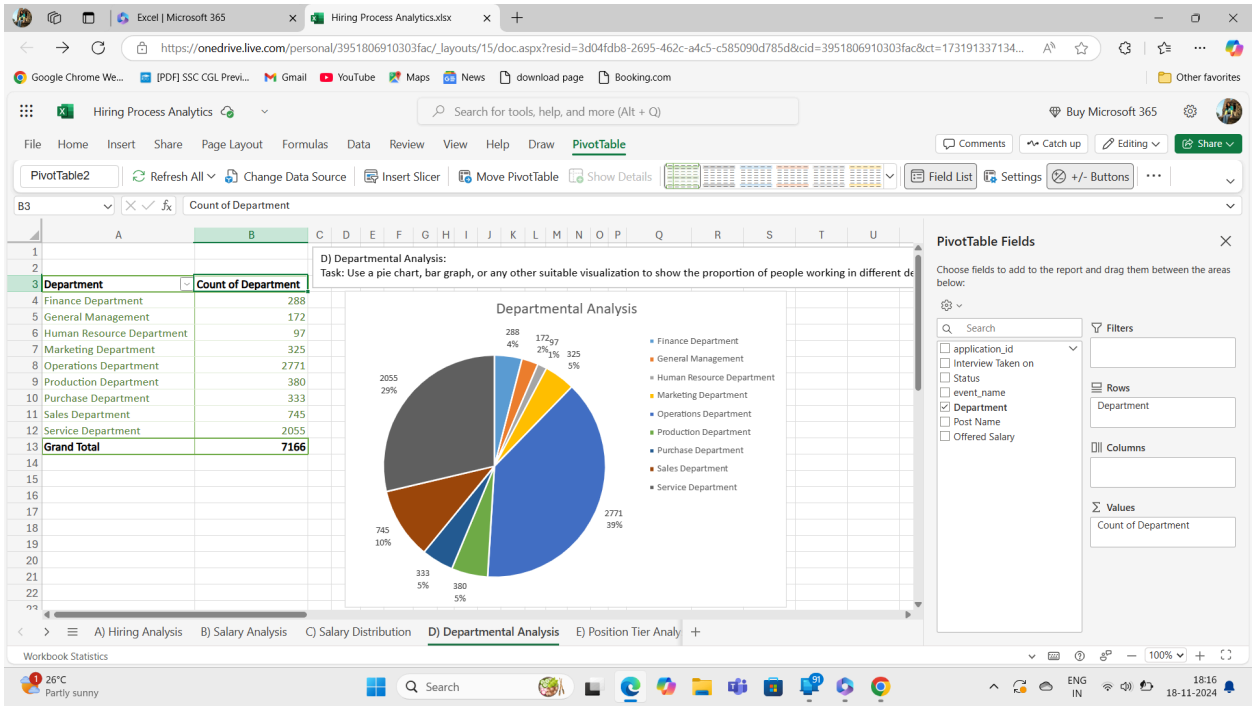
Result:

Department wise average salary distribution is shown with the help of a chart.
The General Management department has the highest average salary, almost 6000.
Also, the Marketing Department has the lowest around 48.5 thousand.

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.



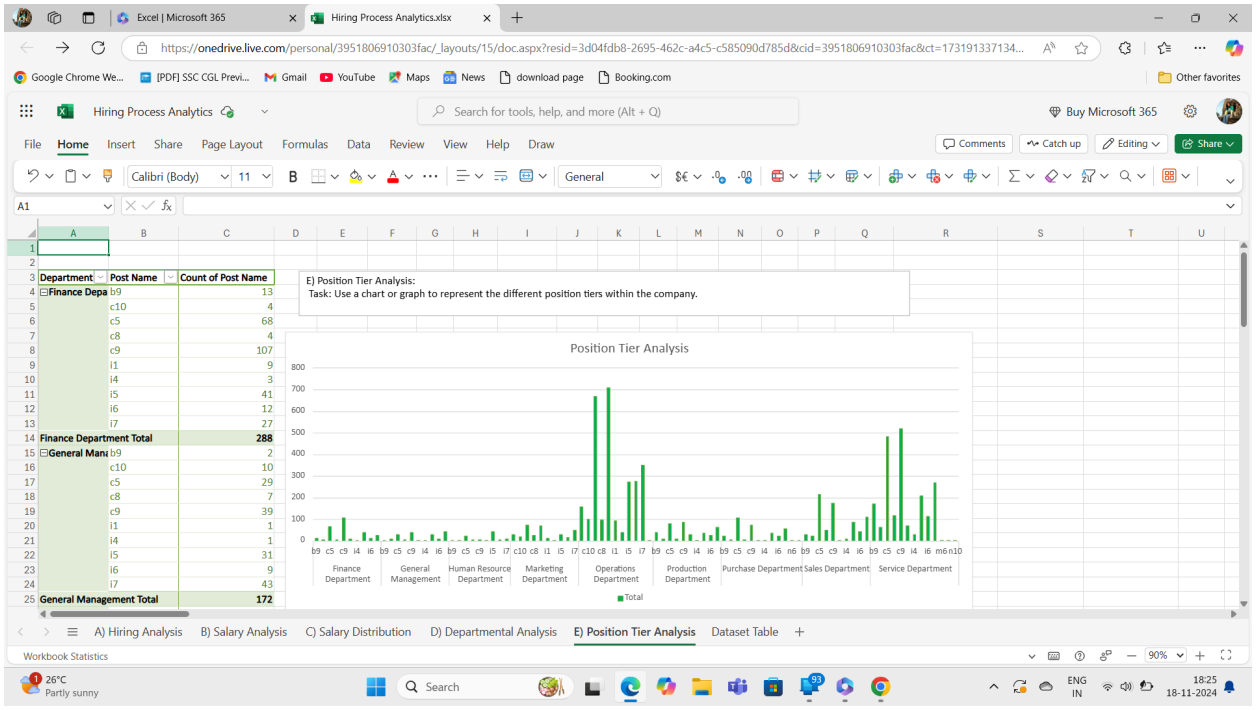
Result:

We are using a Pie Chart to show the distribution of people working across various departments.
The Operations Department has 2771 people which is the highest among all departments.
It is 39% of the total working force.
Meanwhile, the HR Department has 97 people which is 1% of the total.

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.



Department	Post Name	Count of Post Name
Finance Depa	b9	13
	c10	4
	c5	68
	c8	4
	c9	107
	i1	9
	i4	3
	i5	41
	i6	12
	i7	27
Finance Department Total		288
General Mani	b9	2
	c10	10
	c5	29
	c8	7
	c9	39
	i1	1
	i4	1
	i5	31
	i6	9
	i7	43
General Management Total		172

Result:

The graph shows post wise distribution for each department.
In the Operations Department, c9 post has a significantly higher count of posts compared to other departments.
In second place, the Services Department has a high count of posts as well.

Hiring Process Analytics Workbook: [Hiring Process Analytics.xlsx]