HIRING PROCESS ANALYTICS

1.1 PROJECT DESCRIPTION

The primary goal of the project is to analyze a multinational company's hiring process to make it smoother and more efficient. Parameters like the number of applicants, their gender, their date of interviews, the salaries offered to them, the department and posts they interviewed for alongside the status of the process are evaluated. These features provide detailed insights and guidance to the HR team and authoritative figures when filtered and visualized.

1.2 APPROACH

The dataset is available in .csv and .xlsx format. It is first cleaned; missing values are filled and outliers are detected. After the preprocessing or EDA of the dataset is done, the tasks are completed as shown below.

1.3 TECH STACK USED

MS Excel is used for data storage, data processing, manipulation, and visualization. MS Word is used to display actionable insights in an easy-to-understand format, that is, the following report.

1.4 INSIGHTS

1.4.1 Hiring Analysis

⇨ Determine the gender distribution of hires. How many males and females have been hired by the company?

- o **Approach:**
  - ▪ Create a pivot table with application_id, event_name, and status. After filtering, create a pivot chart.
- o **Output:**

Count of application_id	Column Labels 🔽	
Row Labels ▽	Hired	Grand Total
Don't want to say	268	268
Female	1856	1856
Male	2573	2573
Grand Total	**4697**	**4697**

- o **Inference:**
  - ▪ Gender distribution of the hired applicants is understood. The maximum employees are males, followed by females and about 268 employees have not revealed their gender.

1.4.2 Salary Analysis

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

- o **Approach:**
  - ▪ The 'Data Analysis' feature from the Data Tab is used to generate Descriptive Statistics of the offered_salary column. This generates mean which is the average of the salaries. Or Average function can also be used.
- o **Output:**

offered_salary	
Mean	49983.02902
Standard Error	340.784153
Median	49628
Mode	72843
Standard Deviation	28852.16383
Sample Variance	832447357.7
Kurtosis	2.610834569
Skewness	0.361603751
Range	399900
Minimum	100
Maximum	400000
Sum	358278352
Count	7168
Average Salary	49983.02902

- o **Inference:**
  - ▪ This gives the average salary offered to the 7168 employees by the company.

1.4.3 Salary Distribution
⇨ Create class intervals for the salaries in the company. This will help you understand the salary distribution
- o **Approach:**
  - ▪ The range of offered_salary column is divided into bins or intervals of 2000 to check the frequency of salaries in the respective intervals.
- o **Output:**

lower_bounds	upper_bounds	interval_of_salary	frequency
0	2000	0-2000	75
2001	4000	2001-4000	141
4001	6000	4001-6000	169
6001	8000	6001-8000	160
8001	10000	8001-10000	133
10001	12000	10001-12000	139
12001	14000	12001-14000	150
14001	16000	14001-16000	147
16001	18000	16001-18000	150
18001	20000	18001-20000	146
20001	22000	20001-22000	124
22001	24000	22001-24000	158
24001	26000	24001-26000	152
26001	28000	26001-28000	134
28001	30000	28001-30000	143
30001	32000	30001-32000	145
32001	34000	32001-34000	126
34001	36000	34001-36000	136
36001	38000	36001-38000	149
38001	40000	38001-40000	154
40001	42000	40001-42000	165
42001	44000	42001-44000	167
44001	46000	44001-46000	159
46001	48000	46001-48000	156
48001	50000	48001-50000	135
50001	52000	50001-52000	142
52001	54000	52001-54000	155
54001	56000	54001-56000	165
56001	58000	56001-58000	145
58001	60000	58001-60000	143
60001	62000	60001-62000	136
62001	64000	62001-64000	138
64001	66000	64001-66000	133
66001	68000	66001-68000	127
68001	70000	68001-70000	164
70001	72000	70001-72000	135
72001	74000	72001-74000	156
74001	76000	74001-76000	142
76001	78000	76001-78000	149
78001	80000	78001-80000	152
80001	82000	80001-82000	164
82001	84000	82001-84000	127
84001	86000	84001-86000	134
86001	88000	86001-88000	141
88001	90000	88001-90000	145
90001	92000	90001-92000	138
92001	94000	92001-94000	119
94001	96000	94001-96000	138
96001	98000	96001-98000	126
98001	100000	98001-100000	138

100001	102000	100001-102000	0
102001	104000	102001-104000	0
104001	106000	104001-106000	0
106001	108000	106001-108000	0
108001	110000	108001-110000	0
110001	112000	110001-112000	0
112001	114000	112001-114000	0
114001	116000	114001-116000	0
116001	118000	116001-118000	0
118001	120000	118001-120000	0
120001	122000	120001-122000	0
122001	124000	122001-124000	0
124001	126000	124001-126000	0
126001	128000	126001-128000	0
128001	130000	128001-130000	0
130001	132000	130001-132000	0
132001	134000	132001-134000	0
134001	136000	134001-136000	0
136001	138000	136001-138000	0
138001	140000	138001-140000	0
140001	142000	140001-142000	0
142001	144000	142001-144000	0
144001	146000	144001-146000	0
146001	148000	146001-148000	0
148001	150000	148001-150000	0
150001	152000	150001-152000	0
152001	154000	152001-154000	0
154001	156000	154001-156000	0
156001	158000	156001-158000	0
158001	160000	158001-160000	0
160001	162000	160001-162000	0
162001	164000	162001-164000	0
164001	166000	164001-166000	0
166001	168000	166001-168000	0
168001	170000	168001-170000	0
170001	172000	170001-172000	0
172001	174000	172001-174000	0
174001	176000	174001-176000	0
176001	178000	176001-178000	0
178001	180000	178001-180000	0
180001	182000	180001-182000	0
182001	184000	182001-184000	0
184001	186000	184001-186000	0
186001	188000	186001-188000	0
188001	190000	188001-190000	0
190001	192000	190001-192000	0
192001	194000	192001-194000	0
194001	196000	194001-196000	0
196001	198000	196001-198000	0
198001	200000	198001-200000	1

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200001	202000	200001-202000	0
202001	204000	202001-204000	0
204001	206000	204001-206000	0
206001	208000	206001-208000	0
208001	210000	208001-210000	0
210001	212000	210001-212000	0
212001	214000	212001-214000	0
214001	216000	214001-216000	0
216001	218000	216001-218000	0
218001	220000	218001-220000	0
220001	222000	220001-222000	0
222001	224000	222001-224000	0
224001	226000	224001-226000	0
226001	228000	226001-228000	0
228001	230000	228001-230000	0
230001	232000	230001-232000	0
232001	234000	232001-234000	0
234001	236000	234001-236000	0
236001	238000	236001-238000	0
238001	240000	238001-240000	0
240001	242000	240001-242000	0
242001	244000	242001-244000	0
244001	246000	244001-246000	0
246001	248000	246001-248000	0
248001	250000	248001-250000	0
250001	252000	250001-252000	0
252001	254000	252001-254000	0
254001	256000	254001-256000	0
256001	258000	256001-258000	0
258001	260000	258001-260000	0
260001	262000	260001-262000	0
262001	264000	262001-264000	0
264001	266000	264001-266000	0
266001	268000	266001-268000	0
268001	270000	268001-270000	0
270001	272000	270001-272000	0
272001	274000	272001-274000	0
274001	276000	274001-276000	0
276001	278000	276001-278000	0
278001	280000	278001-280000	0
280001	282000	280001-282000	0
282001	284000	282001-284000	0
284001	286000	284001-286000	0
286001	288000	286001-288000	0
288001	290000	288001-290000	0
290001	292000	290001-292000	0
292001	294000	292001-294000	0
294001	296000	294001-296000	0
296001	298000	296001-298000	0
298001	300000	298001-300000	1

302001	304000	302001-304000	0
304001	306000	304001-306000	0
306001	308000	306001-308000	0
308001	310000	308001-310000	0
310001	312000	310001-312000	0
312001	314000	312001-314000	0
314001	316000	314001-316000	0
316001	318000	316001-318000	0
318001	320000	318001-320000	0
320001	322000	320001-322000	0
322001	324000	322001-324000	0
324001	326000	324001-326000	0
326001	328000	326001-328000	0
328001	330000	328001-330000	0
330001	332000	330001-332000	0
332001	334000	332001-334000	0
334001	336000	334001-336000	0
336001	338000	336001-338000	0
338001	340000	338001-340000	0
340001	342000	340001-342000	0
342001	344000	342001-344000	0
344001	346000	344001-346000	0
346001	348000	346001-348000	0
348001	350000	348001-350000	0
350001	352000	350001-352000	0
352001	354000	352001-354000	0
354001	356000	354001-356000	0
356001	358000	356001-358000	0
358001	360000	358001-360000	0
360001	362000	360001-362000	0
362001	364000	362001-364000	0
364001	366000	364001-366000	0
366001	368000	366001-368000	0
368001	370000	368001-370000	0
370001	372000	370001-372000	0
372001	374000	372001-374000	0
374001	376000	374001-376000	0
376001	378000	376001-378000	0
378001	380000	378001-380000	0
380001	382000	380001-382000	0
382001	384000	382001-384000	0
384001	386000	384001-386000	0
386001	388000	386001-388000	0
388001	390000	388001-390000	0
390001	392000	390001-392000	0
392001	394000	392001-394000	0
394001	396000	394001-396000	0
396001	398000	396001-398000	0
398001	400000	398001-400000	1

- **Inference:**
  - This gives the distribution of salaries in various ranges. From this we can also conclude that the maximum number of employees being 169 employees, have a salary in the range of 4001 to 6000.
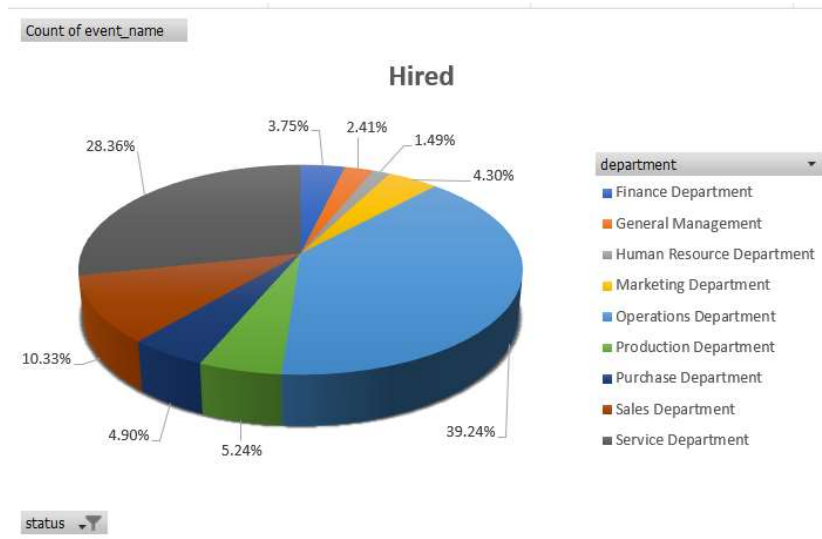
1.4.4 Department Analysis

⇨ Use a pie chart, bar graph, or any other suitable visualization to show the proportion of people working in different departments.

- **Approach:**
  - Create a pivot table with status, department and Count of event_name. After filtering and converting values as % of grand total, create a pivot chart in the form of pie chart.

- **Output:**

Count of event_name	Column Labels	
Row Labels	Hired	Grand Total
Finance Department	3.75%	3.75%
General Management	2.41%	2.41%
Human Resource Department	1.49%	1.49%
Marketing Department	4.30%	4.30%
Operations Department	39.24%	39.24%
Production Department	5.24%	5.24%
Purchase Department	4.90%	4.90%
Sales Department	10.33%	10.33%
Service Department	28.36%	28.36%
Grand Total	**100.00%**	**100.00%**

Count of event_name

Hired

- 3.75%
- 2.41%
- 1.49%
- 4.30%
- 28.36%
- 10.33%
- 4.90%
- 5.24%
- 39.24%

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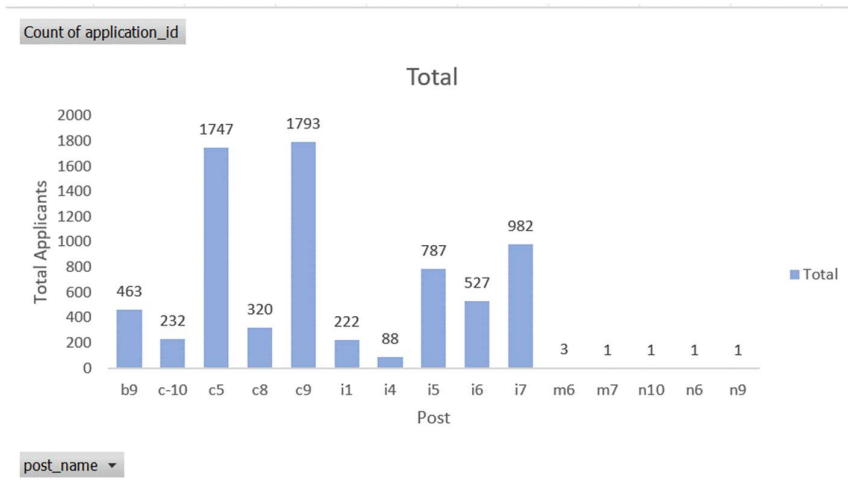- Purchase Department
- Sales Department
- Service Department

status

- o **Inference:**
  - The distribution of employees in various departments is visualized. It can be confirmed that the Service department has the highest percentage of employees out of the total hired applicants.

1.4.5 Position Tier Analysis

⇨ 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.

- o **Approach:**
  - Create a pivot table with post_name and Count of application_id. Convert this into a pivot chart in the form of a Column chart.
- o **Output:**

post_name	Count of application_id
b9	463
c-10	232
c5	1747
c8	320
c9	1793
i1	222
i4	88
i5	787
i6	527
i7	982
m6	3
m7	1
n10	1
n6	1
n9	1
Grand Total	**7168**

Count of application_id

Total

o **Inference:**
  - This gives the number of employees holding each available post in the organization. It can be inferred that the highest number of employees work for the 'c9' post.

1.5 RESULTS

The hiring data analysis provides valuable insights as to where the company's strategies are excelling and what parts require improvement. It will also allow the organization's executive figures to be on track with the strength of the company. The visualization proves to be a customizable and handy approach to tracking. These measures become the foundations of the organization's boom as they facilitate smart decision-making.

1.6 HYPERLINK OF THE EXCEL SHEET

https://docs.google.com/spreadsheets/d/1Of96lSzC-Lg4Tc9ID0lINNk2y5FjML1i/edit?usp=sharing&ouid=105545149670713438068&rtpof=true&sd=true