EMPLOYEE ATTRITION DATA ANALYSIS

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GOAL

Using the provided data sets, surface insights about employee attrition that will inform the organization's efforts to retain top talent.

APPROACH

For this analysis, I used IPython Jupyter Notebook.

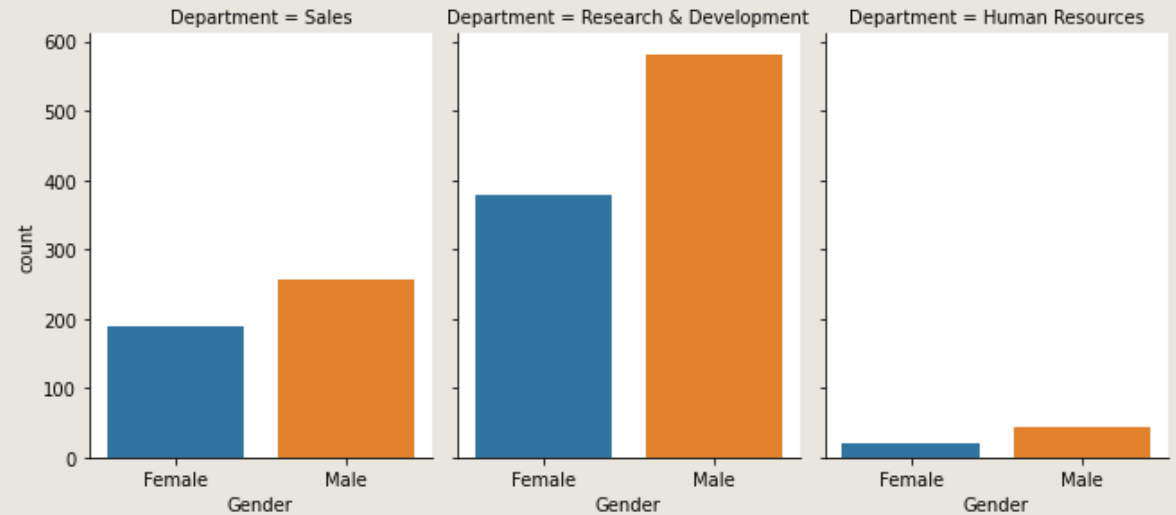Below is how I have looked at the data:
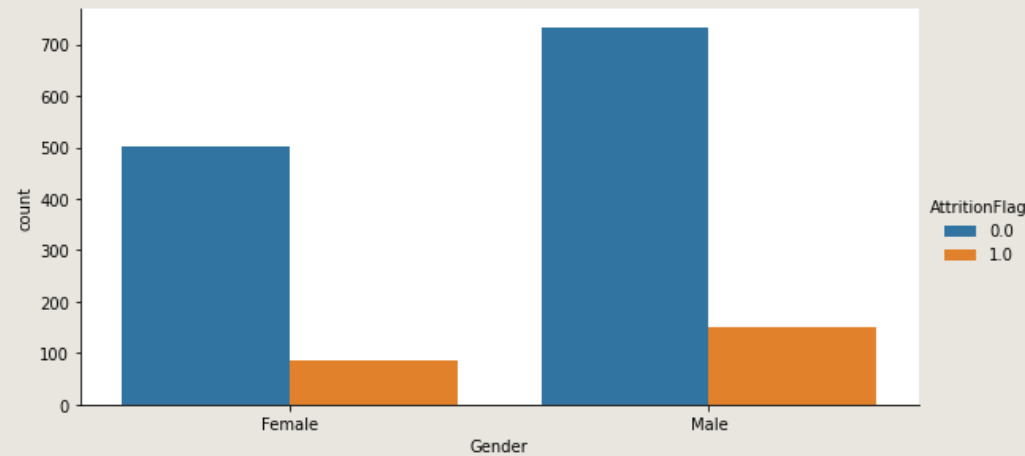
➢ Promotions, Mobility, growth and stagnation

➢ E-Sat Score

➢ Diversity

➢ Overtime & Travel and its relation to work-life balance

➢ Stability and any concerns from frequent job changes

➢ Fairness of compensation and pay-gap among peers
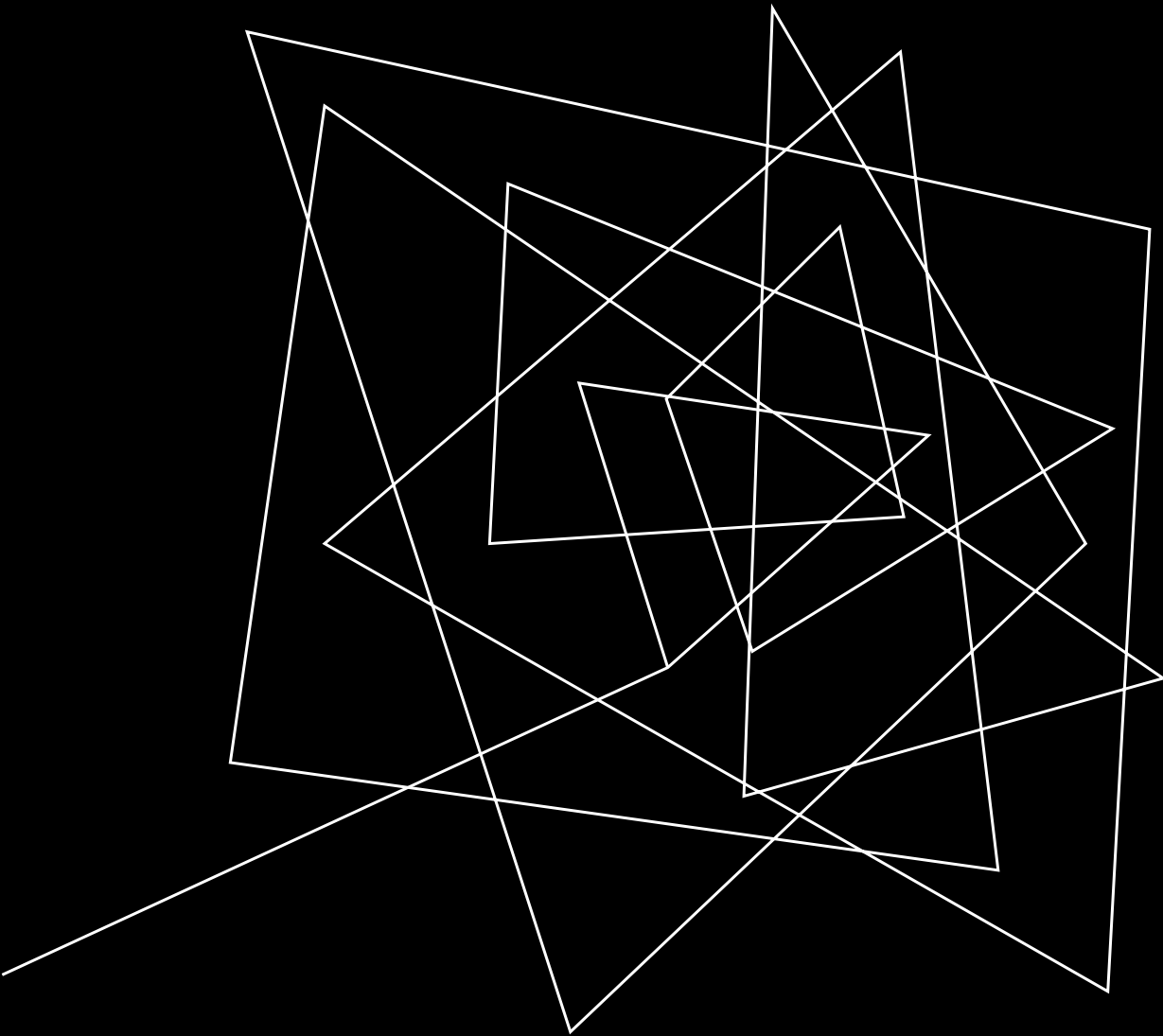
NOTE

While a more in-depth analysis has been done, this presentation contains only the relevant visual aids which support the recommendations made.
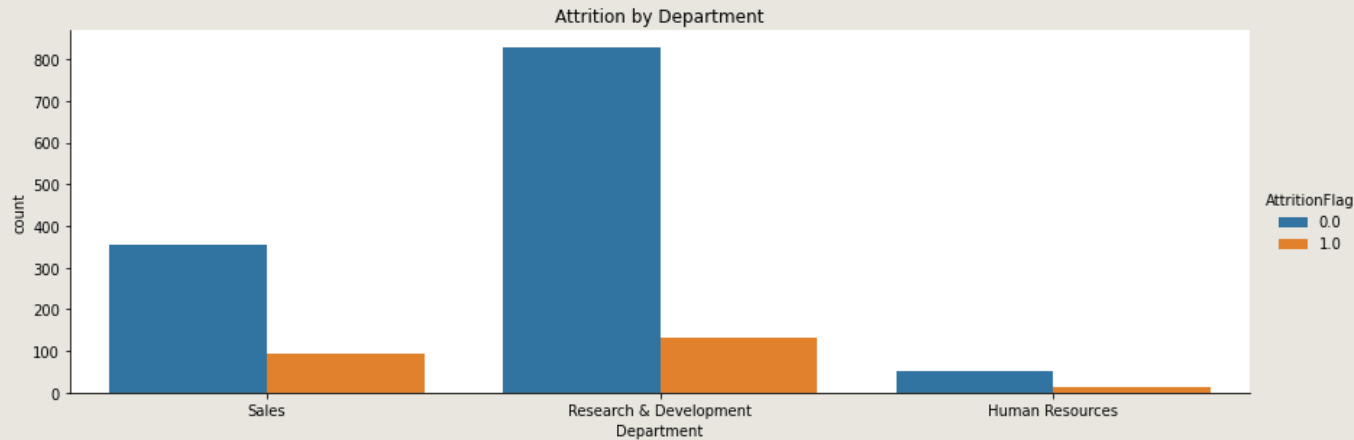
GENDER - REPRESENTATION

		AttritionFlag	Count	Attrition%
Department	Gender			
Human Resources	Female	6.0	20	30.00
	Male	6.0	43	13.95
Research & Development	Female	43.0	379	11.35
	Male	90.0	582	15.46
Sales	Female	38.0	189	20.11
	Male	54.0	257	21.01

Overall, Female employees make up about 40% of the staff within the population. However, they are slightly under represented in Departments like Human Resources where they make up about 32% of the department.

Depending on the diversity goals of the business, improving diversity can be looked upon.

ATTRITION BY DEPARTMENT

Attrition by Department

Department	AttritionFlag	Count	Attrition%
Human Resources	12.0	63	19.05
Research & Development	133.0	961	13.84
Sales	92.0	446	20.63

Current attrition for this poplation stands at just above 16%.

Sales department has the highest attrition % followed by Human Resources.

However, in terms of pure numbers, Research & Development seems to be the highest contributor to attrition.

A deeper dive is needed into the driver for attrition in these departments.

Department	JobRole	AttritionFlag	Count	Attrition%
Sales	Manager	2.0	37	5.41
	Sales Executive	57.0	326	17.48
	Sales Representative	33.0	83	39.76

Within the Sales department, Work-Life balance does seem to be a concern as everyone has give a rating of 3 (Good) or 4 (Bad) as opposed to 1 (Best) and 2 (Better) which are desirable. This is the case across all job roles.

For remaining 3 Parameters, all ratings have received similar proportion of responses with most giving a score of 3 (High) and 4 (Very High)
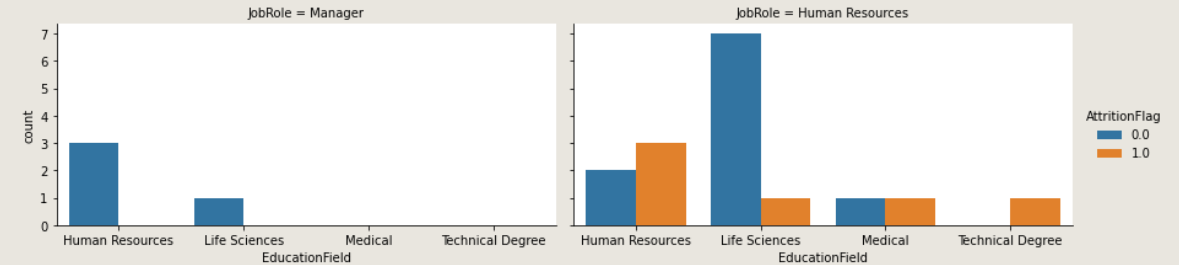
However, within the Sales department, Sales Representatives seem to be having the highest attrition at almost 40%. A significant number of those who have given a 3 & 4 for Work Life balance. There also seem to be significant population of Sales Representatives which has rated 1 (Low) for Relationship Satisfaction. This should be looked at.

JOB SATISFACTION – HUMAN RESOURCES
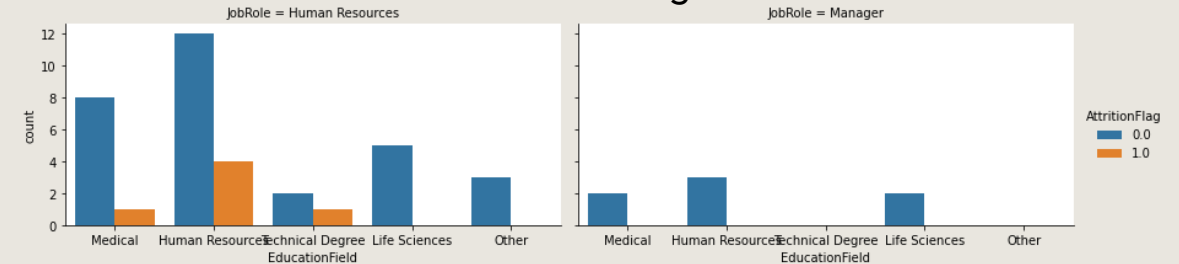

Male Colleagues

Female Colleagues
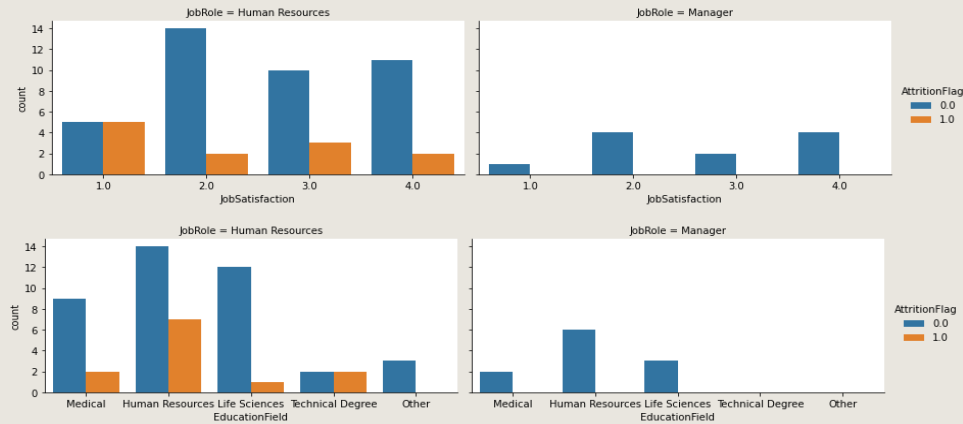
Looking at different Analysis of the data of the HR department, it seems that people who have an educational field in HR are not finding the work satisfying/rewarding and this much more seems to be the case with Female staff than Male staff.

Department	Gender	AttritionFlag	Count	Attrition%
Human Resources	Female	6.0	20	30.00
	Male	6.0	43	13.95
Research & Development	Female	43.0	379	11.35
	Male	90.0	582	15.46
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COMPENSATION ISSUE WITHIN RESEARCH & DEVELOPMENT

| Department	JobRole	AttritionFlag	Count	Attrition%
Research & Development	Healthcare Representative	9.0	131	6.87
	Laboratory Technician	62.0	259	23.94
	Manager	3.0	54	5.56
	Manufacturing Director	10.0	145	6.90
	Research Director	2.0	80	2.50
	Research Scientist	47.0	292	16.10
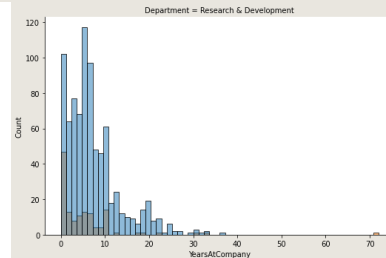
Within the Research & Development department, we seem to be losing significant amount of people within two roles which make up the bulk of the department:

➢ Laboratory Technician

➢ Research Scientist

Look at the compensation distribution, it seems that the primary course of attrition seems to be compensation within these two roles. We seem to have more attrition for those staff whose Salary is lower. These are most likely new joiners. The attrition lowers as the compensation increases.

Organisation should look at improving the pay gap between staff for the same role to some extent.
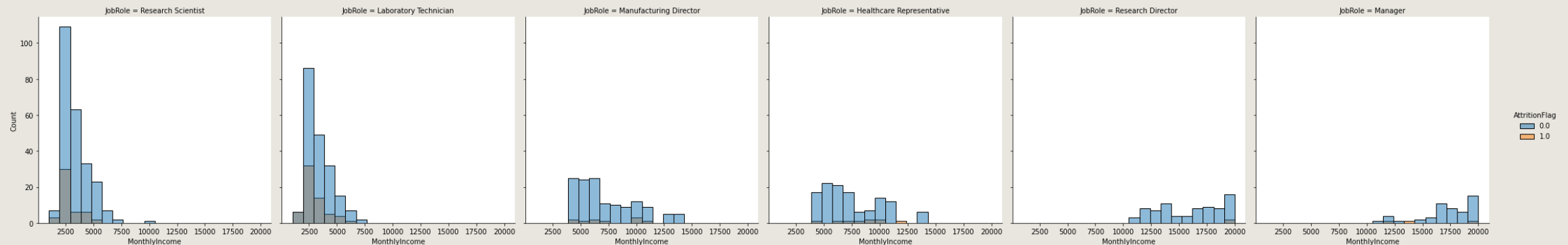
ANALYSING WORK-LIFE BALANCE
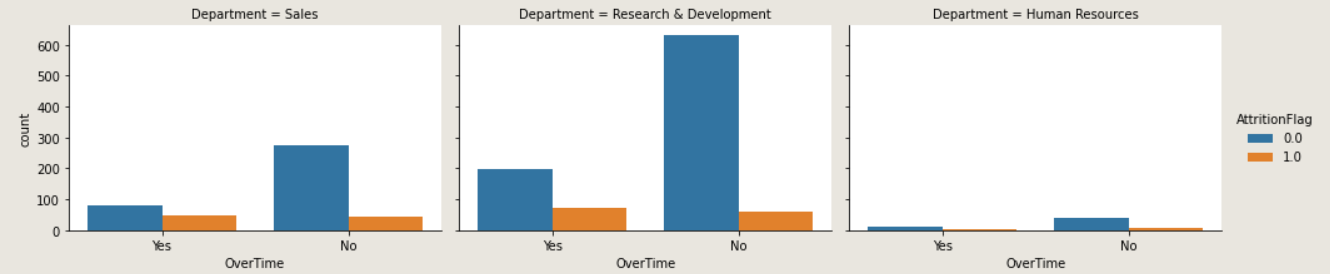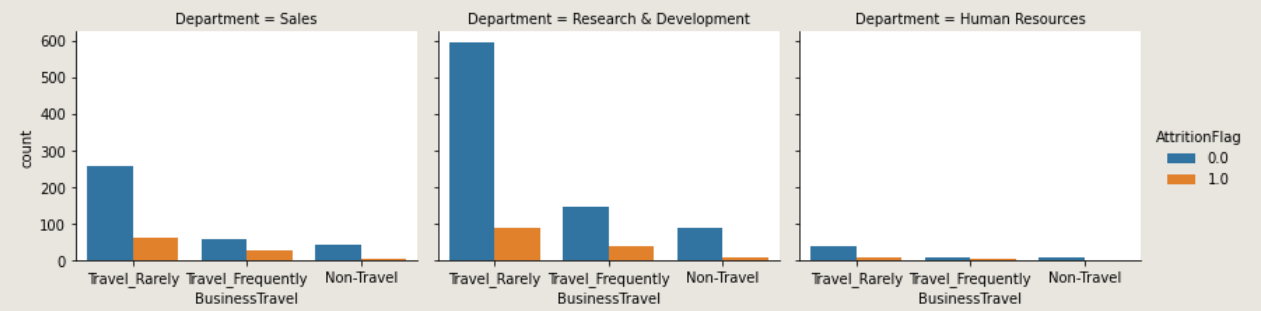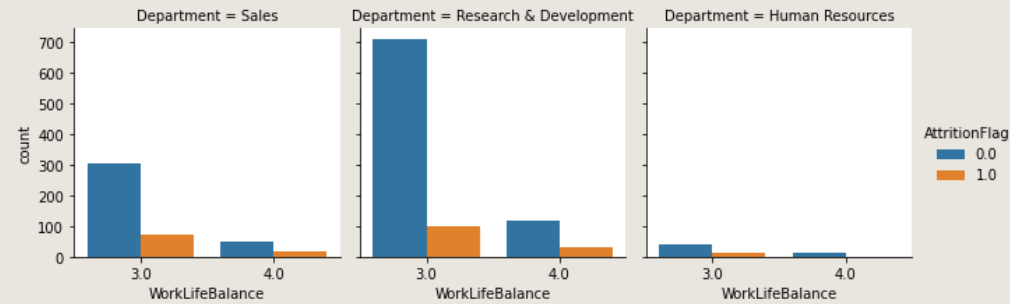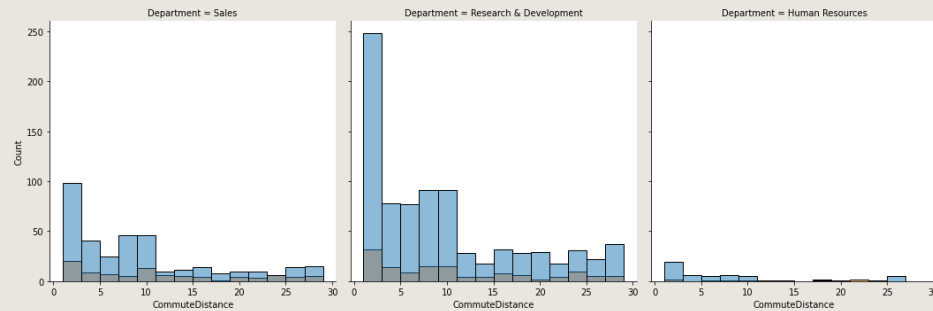
While looking at Work-Life balance specifically, its important to look at whether the factors are controllable or not.

We looked at the distribution of commute times, Overtime and checked if higher/lower commute time or less/more commute time is the issue. We can clearly see that the ratio of staff leaving is the same no matter what the commute distance. Same is the case with Business Travel.

However, it seems those who do overtime are more at risk of attrition, than those who are not.

Department	OverTime	AttritionFlag	Count	Attrition%
Human Resources	No	7.0	46	15.22
	Yes	5.0	17	29.41
Research & Development	No	59.0	690	8.55
	Yes	74.0	271	27.31
Sales	No	44.0	318	13.84
	Yes	48.0	128	37.50

RECOMMENDATIONS

Based on my analysis of the data, below are a few recommendations that

1. Work - Life Balance is needs to be generally looked at across the organization. Overtime seems to be a significant contributor to this across all departments.

2. Work environment within the Sales team seems to be causing attrition. Above mentioned Overtime seems to be the prime reason.

3. Organisation should look at reasons why people who have an educational background in Human Resources are not finding their work within Human Resources satisfying/rewarding

4. Pay gap between staff in the Laboratory Technician and Research Scientist roles should be reduced and a better compensation should be offered upon hiring within these two roles

THANK YOU

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