

ISSUE / PROBLEM

High employee turnover that impact high cost in terms of recruitment, training, and lost productivity. Salifort wants to **predict which employee are likely to leave** and **understand the underlying causes of turnover**

RESPONSE

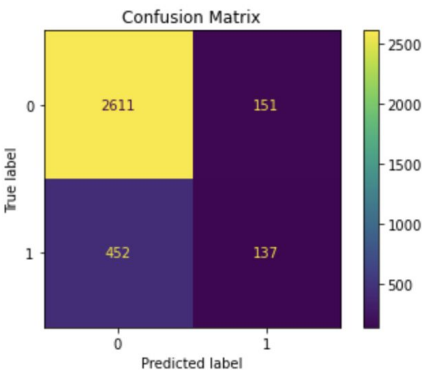
The HR team has conducted a **survey** to gather data on employee experience, focusing on factors that may influence turnover. The leadership team has tasked with **building a predictive model** to identify employees at risk of leaving the company.

IMPACT

The model will be used to guide efforts to **improve employee retention** and **reduce cost associated with turnover**

The model successfully identified the key factors influencing employee attrition and achieved a decent accuracy of **82% in predicting employee retention.**

However, it **struggled to accurately predict employees who are likely to leave**, as evidenced by the low recall (23%) and moderate precision (48%) for the leaving class.



	precision	recall	f1-score	support
Predicted would not leave	0.85	0.95	0.90	2762
predicted would leave	0.48	0.23	0.31	589
accuracy			0.82	3351
macro avg	0.66	0.59	0.60	3351
weighted avg	0.79	0.82	0.79	3351

The table below shows the model coefficient that is influencing employees stayed of left the company.

	Features	Coefficient (Log-odds Ratio)
0	satisfaction	-4.452905
1	work_accident	-1.536662
2	tenure	1.045225
3	promotion_last_5_years	-0.694319
4	salary_level	-0.556749
5	num_projects	-0.461625
6	evaluation_score	-0.147517
7	avg_monthly_hours	0.003668

KEY INSIGHTS

- 1. **Satisfaction has the strongest negative** impact on likelihood of employees leaving. A **lower satisfaction score significantly increase the odds of attrition**
- 2. Work accident negatively influences attrition. Employees **who had accidents are less likely to leave.**
- 3. Tenure shows a positive coefficient, suggesting that **employees with longer tenure are slightly more likely to leave**
- 4. **Promotion, salary level, and number of project have moderate negative impacts,** implying these factors **help retain employees**
- 5. **Evaluation score** has a weak negative effect, indicating a **slight tendency for those with lower evaluation scores to leave**
- 6. **Avg monthly hours** has neutral effect, meaning **not strongly influence employee to leave**