Analyzing Employee Turnover at Acme Aroma

Key Insights: Employee survey data analysis yielded a model that accurately predicts non-turnover scenarios and offers reasonable predictions for turnover occurrences.

- **36% of employees** in the dataset identified as leaving the company **rated work-life balance as "Bad"** (1 on a 1-4 scale)

- **An increase in Work-Life Balance** by one standard deviation in survey scores **is linked to an 86.5% to 90.3% reduction in the odds of turnover.**

- This initiative is anticipated to yield a **3% reduction in turnover** and **potentially save approximately ₹126,225,521** in acquisition expenses, based on a sample of the provided data.

Primary Recommendation: To mitigate the escalating turnover rate and associated costs, Acme Aroma should aim to **enhance Work-Life Balance by reducing mandatory business travel.**

Problem: Acme Aroma has witnessed an increase in employee turnover over the past few years, with **turnover rates rising from 12% in 2018 to 19% and 16% in 2021 and 2022**, respectively. This is accompanied by several issues:

- **Declining employee satisfaction -** Down from a score of 3.4 to 2.7.

- **Declining number of job applications per opening -** Down from 32 applicants in 2016 to just 8 applicants in 2022.

- **Increasing cost of employee acquisition -** Doubled from ₹15,000 to ₹30,000 between 2021 and 2022.

Approach: Our approach centered on creating an employee turnover model to gauge the risk of employees leaving the company using key predictors for turnover risk in survey data acquired from Acme Aroma's human resources information system.

Limitations: While the model demonstrates an F1 score of 0.71 for turnover cases, and a false positive rate of 9.25% indicating reasonable predictive performance, improvements can be made.

The primary challenge lies in the false negative rate of 15.46%, which signifies the risk of losing valuable employees due to inaccuracies in predictions. The skewed data distribution towards employees staying at Acme Aroma poses challenges In identifying attributes of departing employees.

To address these challenges, **explore opportunities for gathering additional data,** including sentiment analysis through open-ended survey responses, and **continuously refine the predictive model.**

Finally, to effectively address the growing turnover trend, Acme Aroma should **aim to understand other turnover factors and adopt a multi-faceted approach that encompasses improved work-life balance.**