Executive summary

Google Advanced Data Analytics
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Project Overview & Key Insights From Data Analysis

Project Overview

- Objective: Analyze employee turnover patterns and develop predictive models to identify at-risk employees.
- Scope: Focused on key factors influencing turnover, including evaluation scores, workload metrics (monthly hours, number of projects), salary levels, and department-specific trends.

Details

Average Monthly Hours by Salary Level and Department

Evaluation Scores by Department and Turnover Status

Key Insights

1. Turnover Drivers:

Burnout:
- Employees with high evaluation scores (~0.8–1) and long monthly hours (>250) or many projects (≥5) are at risk of leaving due to burnout.

Disengagement:
- Employees with low evaluation scores (~0.4–0.6) and moderate workloads are likely to leave due to dissatisfaction or lack of engagement.

2. Department-Specific Trends:
- In HR and Marketing, employees who left had lower evaluation scores than those who stayed, indicating underperformance or dissatisfaction as key drivers.
- In Management and Technical, employees who left had higher evaluation scores than those who stayed, suggesting burnout or external opportunities.

3. Salary-Level Patterns:
- For low/medium salaries, high-performing employees are more likely to leave due to unmet expectations or burnout.
- For high salaries, underperforming employees are more likely to leave despite competitive compensation.
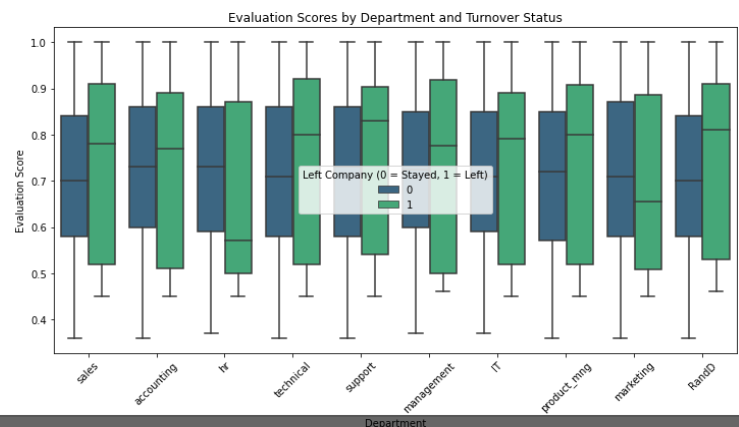
Next Steps

- Pilot retention strategies in high-risk departments (e.g., Management, Technical) and evaluate their impact on turnover rates.
- Collect additional data (e.g., job satisfaction surveys) to enhance model performance and refine recommendations.
- Regularly monitor workload distribution and compensation policies to proactively address emerging risks.

Other issues (evaluation scores) on Turnover Status

ISSUE / PROBLEM

1. Evaluation vs. Number of Projects by Turnover Status
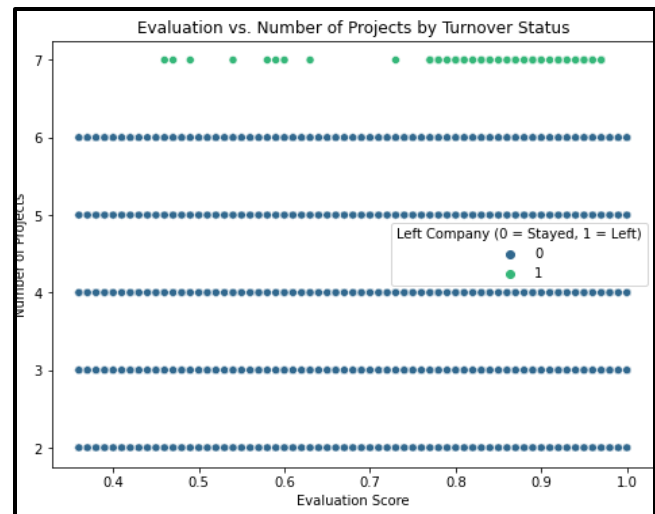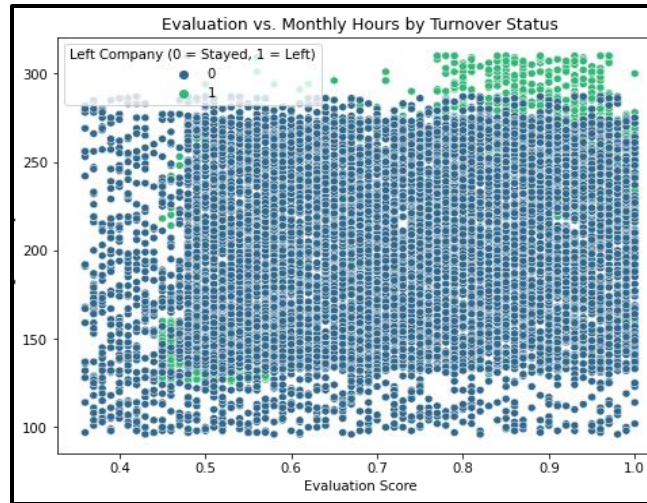2. Evaluation vs. Monthly Hours by Turnover Status

RESPONSE

Turnover is driven by both burnout (high performers with long hours) and disengagement (low performers with moderate hours). Retention strategies should address workload imbalances for top performers and engagement issues for low performers.

High project counts combined with high evaluations lead to burnout, while low project counts combined with low evaluations reflect disengagement. Workload balancing is critical for retaining high performers, while engagement strategies are needed for underperformers.

IMPACT

High turnover can lead to increased costs for recruitment and training, and may reflect underlying issues like dissatisfaction or poor work-life balance.

Further analysis of factors influencing turnover (e.g., satisfaction level, salary, or time spent at the company) can help identify actionable solutions to improve retention.

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KEY INSIGHTS

Evaluation vs. Monthly Hours by Turnover Status (Scatter Plot)
Employees who left (green dots) tend to cluster at both extremes of evaluation scores. Insight: High evaluations combined with long hours suggest work pressure as a driver of turnover. Low evaluations may reflect disengagement, leading to attrition.

Evaluation vs. Number of Projects by Turnover Status (Scatter Plot)
Employees who left (green dots) are clustered at higher project counts (≥5) and extreme evaluation scores. Insight: Turnover is higher among employees handling excessive projects or those with low engagement levels.