MoonDash Data Exercise

Role: Senior Analyst, Workforce Strategy & Labor Economics

Prompt

MoonDash Inc. is a fictitious company that specializes in delivery logistics for shuttling goods and services to and from the Moon. The company's leadership team is working on the 2025 strategic workforce plan to estimate budgetary needs for additional headcount. To support this effort, they have requested a turnover analysis to anticipate hiring requirements for the upcoming year. Your task is to analyze the provided dataset using Python/R and develop a one page exec summary of your insights, including key trends and factors driving employee turnover and a turnover forecast for 2025.

Data

You have been provided with the following data file to conduct your analysis: *moondash_data.xlsx*. Below is a description of the data columns.

- *effective_date:* Date employee data was recorded
- *employee_id*: Unique employee identifier
- *job_function*: General description of employee functional department
- *location*: Employee's assigned work location
- *job_level*: Employee's level within the company, 9 levels of increasing seniority from L2 - L10
- employee_status: Identifies whether employee is active or terminated
- *hire_date*: Date when employee was hired
- *pay_rate_type*: Identifies whether the employee's pay rate is hourly or salary
- *role_volume_type*: Identifies whether the employee's role is high volume (entry-level) or low volume (specialized)

Key Deliverables

Please prepare a PDF report that includes the following.

1. Exec summary (1 page) with the following sections. The intended audience is non-technical leadership.
   - TL;DR summary: At the top of your report, include a tl;dr (too long; didn't read) 3-5 bullet summary of your analysis, insights, and recommendations.
   - Hypothesis / problem statement: Brief description of the hypothesis / problem.
   - Data description: Brief description of the data. Please include any assumptions you made about the data.
   - Methods: Brief description of the methods you used to conduct your analysis.
   - Results: Present the results of your analysis as well as your interpretation and takeaways. Please include at least one visualization (table / chart) to communicate your results.
   - Recommendations: Provide recommendations to leadership based on your results, including any next steps

2. Appendix with the following sections. The intended audience is technical stakeholders.
   - Supplemental Notes: Please provide any additional details about your analysis that support the main text but are not essential to its core narrative. This section allows for a deeper explanation of methods, results, and analyses that enhance the study's transparency and reproducibility.
   - Code: Please attach the Python/R code you used to process the data and conduct your analysis. Please add comments to your code so that it is easy to follow along.