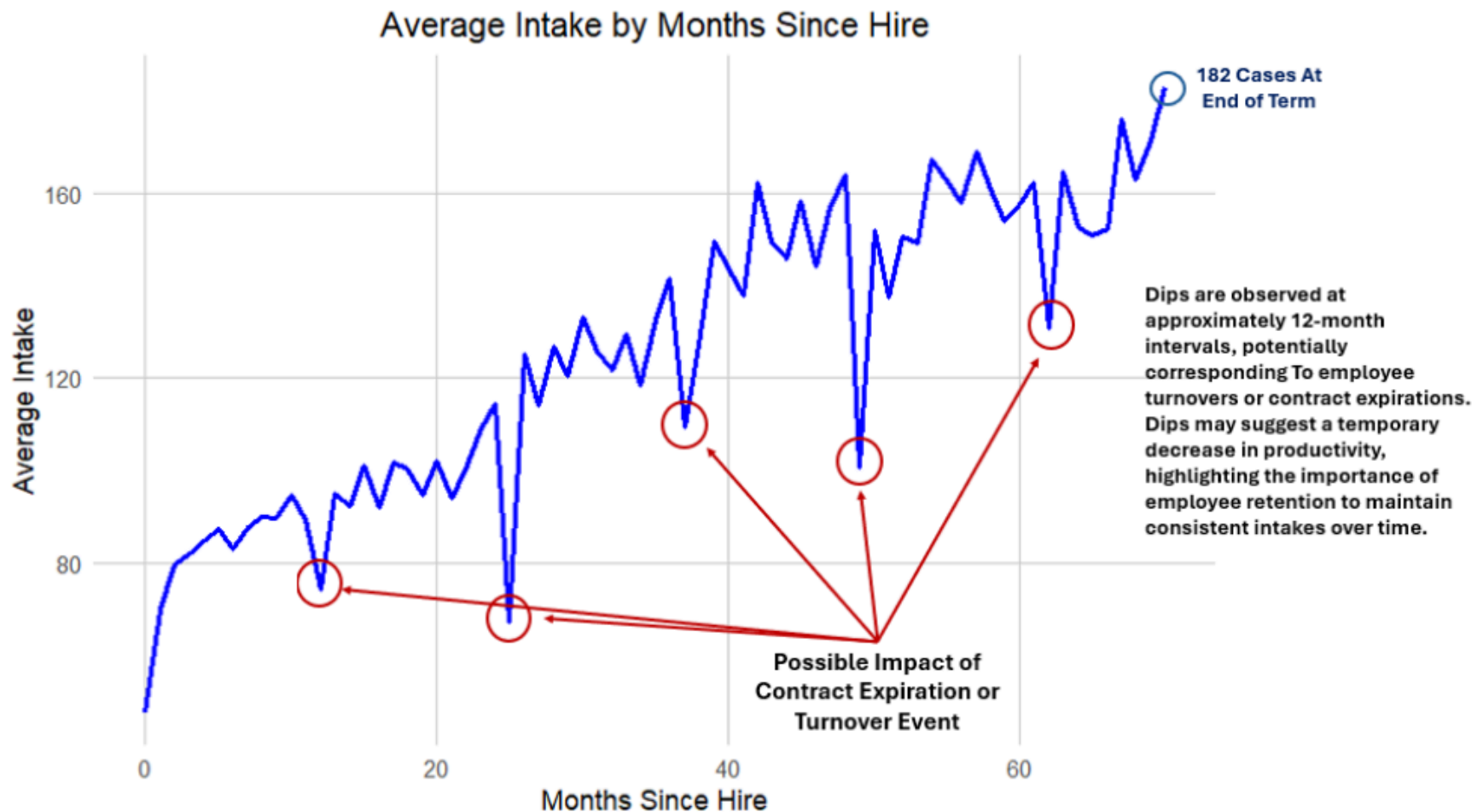


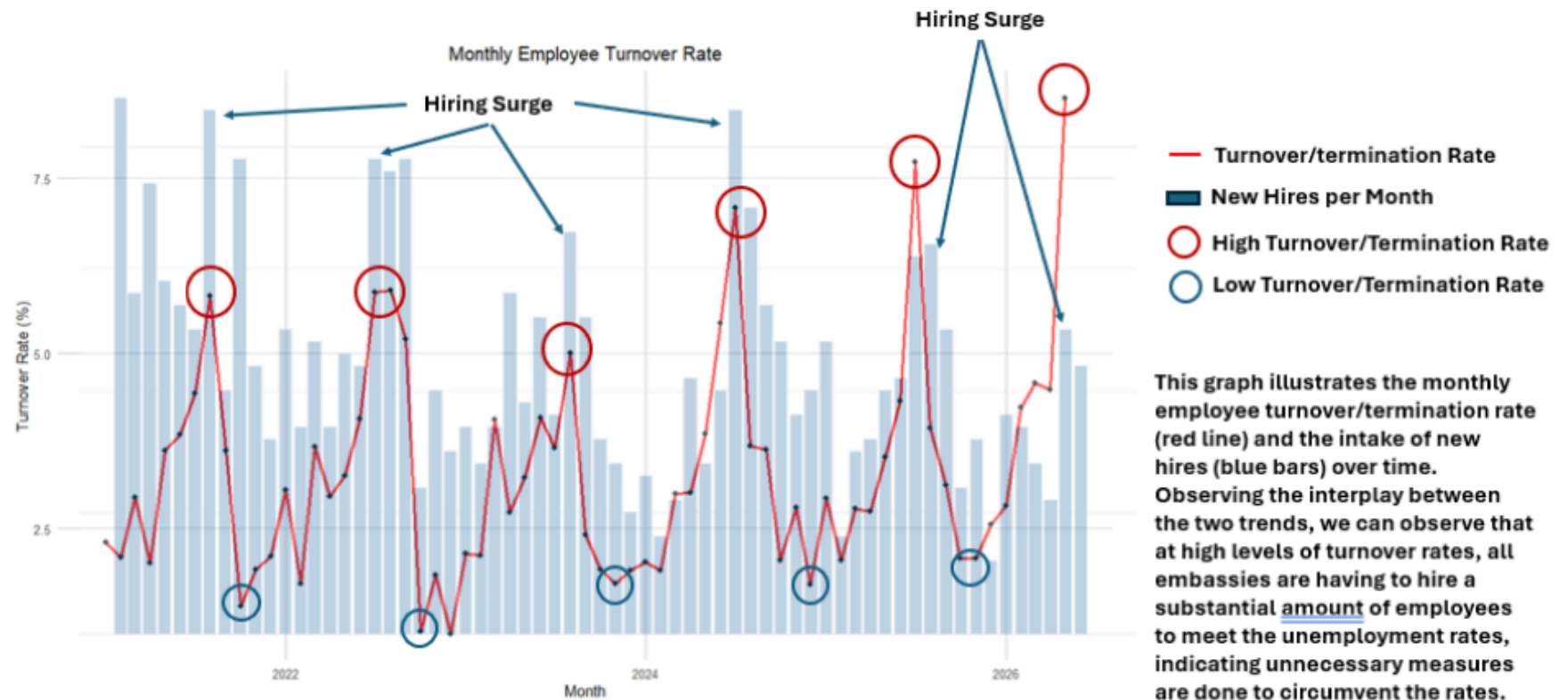
# **SDS 3786 Lab 5: La mise en récit de données.**

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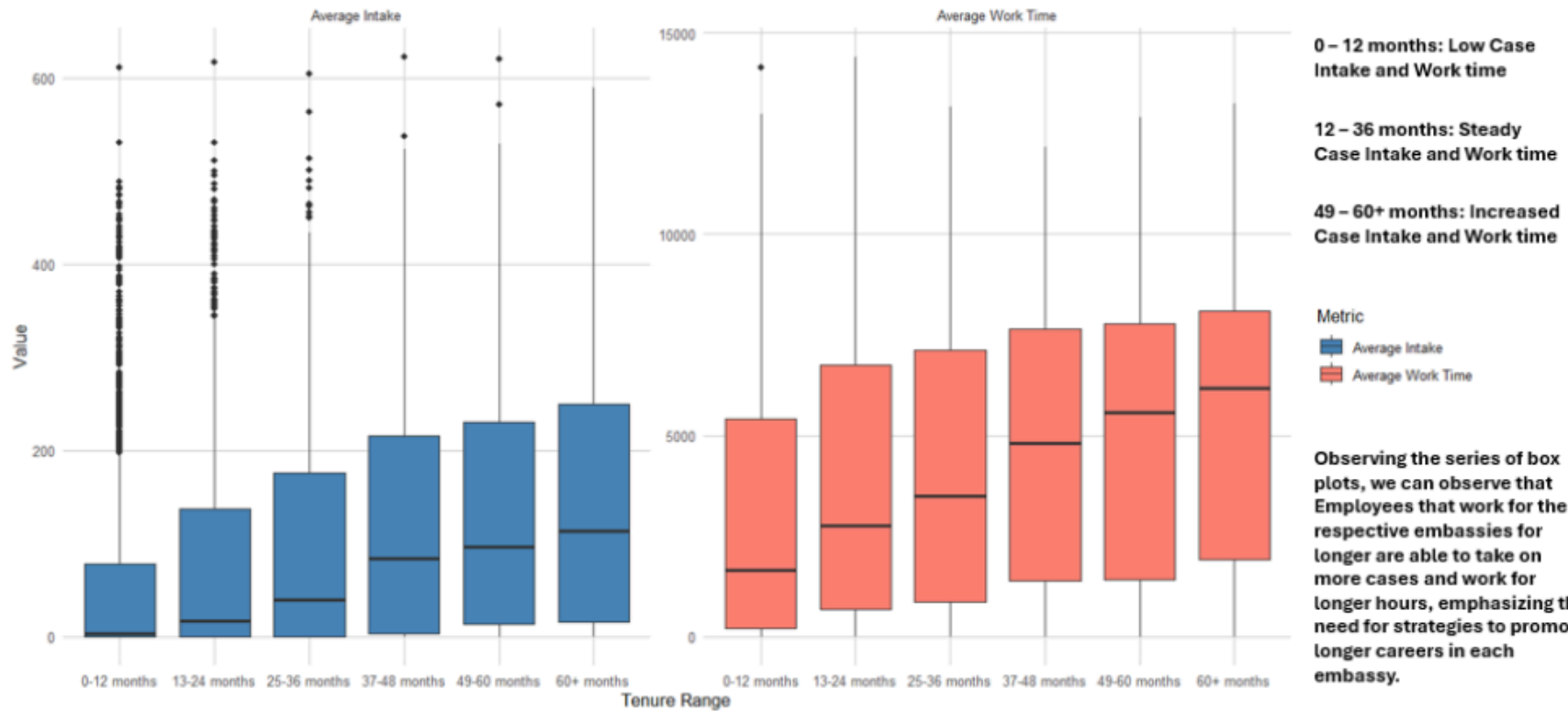
## Introduction

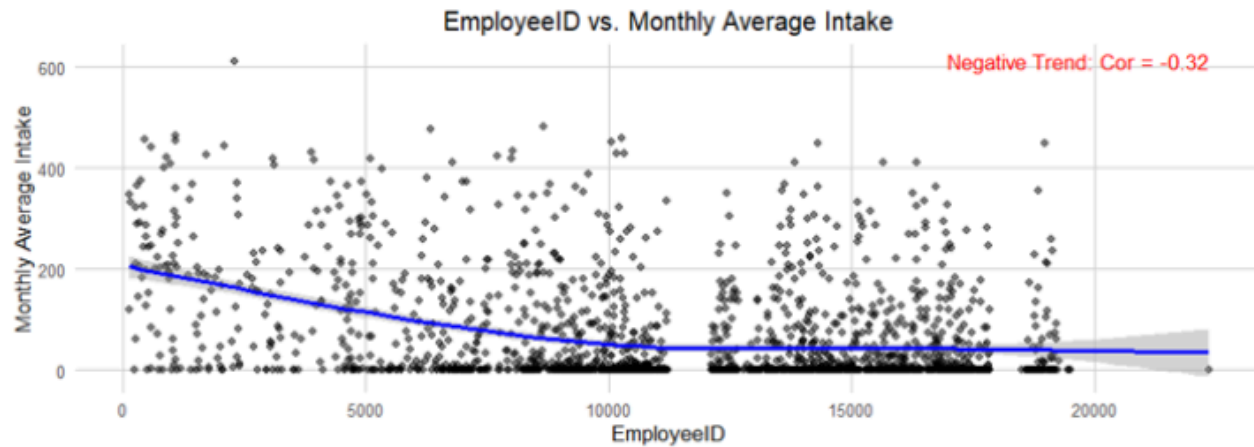
This report provides a comprehensive analysis of embassy operations based on two datasets: Pimento Cases and PIMENTO PROGRAMS. Through detailed examination, we have identified patterns, trends, and inefficiencies within our embassies. The insights from these datasets revealed crucial information for optimizing our resource allocation, improving training programs, and adjusting operational priorities.





Comparison of Average Intake and Average Work Time by Tenure Range





Our speculation that there were issues regarding employees and their shortened employment periods stem from this box plot. By observing the correlation coefficient, we can observe that the newer the employee, the less average intake and work time they record. This was originally thought to be due to the lack of experience, but after further research, we deduced it to be due to the high lay-off spikes happening every year.

## Conclusion

### 1. Key Insights

The analysis revealed several significant trends:

- **Intake Dips at 12-Month Intervals:** We observed recurring decreases in average intake around 12-month cycles, likely tied to contract renewals or turnover events.
- **Increasing Turnover Rates:** Turnover spikes appear annually, accompanied by high hiring phases. Each year, the peak turnover rate grows, indicating that employee retention is becoming progressively challenging.
- **Newer Employees Perform Less Efficiently:** There is a negative correlation between employee IDs (indicating newer hires) and performance metrics like intake and time worked, showing that experienced employees tend to be more productive.
- **Productivity Grows with Tenure:** Employees who remain in their roles show increased productivity over tenure ranges (e.g., 0-12, 13-24 months), emphasizing the value of long-term retention.

### 2. Bigger Picture

The high turnover rate contributes to a decline in overall productivity, as newer employees tend to perform less effectively than their experienced counterparts. This turnover pattern, along with recurring drops in intake at annual intervals, underscores how workforce instability impacts operational efficiency.

### 3. Implications

These findings suggest that improving employee retention is essential. The current trend indicates that turnover is impacting productivity, and it is becoming increasingly difficult to retain employees. Stabilizing the workforce by extending employee tenure could enhance consistency, reduce the need for frequent hiring, and ultimately improve performance.

### 4. Suggest Actionable Next Steps

To address these challenges, consider implementing targeted retention strategies. Recommendations include:

- **Retention Programs:** Explore options like contract extensions and performance incentives for long-term employees.
- **Onboarding and Training Programs:** Enhance the onboarding process and provide continuous training to help newer employees reach higher productivity levels more quickly.
- **Regularly Evaluate Retention Metrics:** Monitor turnover and productivity metrics to adjust strategies as necessary.

Ultimately, investing in employee retention can transform these insights into substantial, long-term benefits. By focusing on retention and workforce stability, the organization can build a strong foundation for operational efficiency, productivity, and sustained growth.