



Employee Survey Insights for Advocate Health



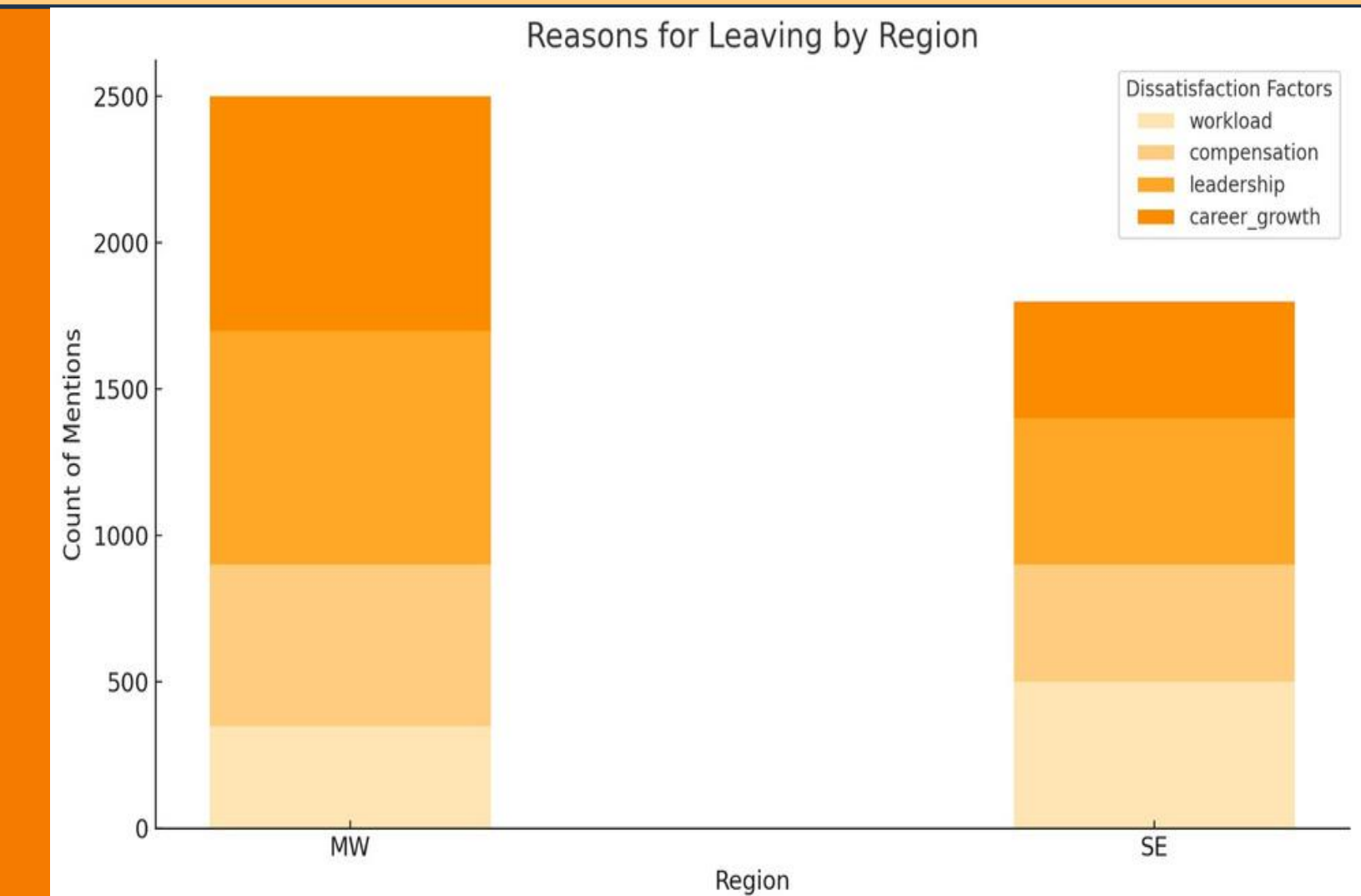
INTRODUCTION

Advocate Health, established through the merger of Advocate Aurora Health and Atrium Health in December 2022, stands as one of the largest non-profit integrated health systems in the United States. It prioritizes employee engagement as a key performance indicator. To enhance retention and satisfaction, we analyzed structured and unstructured survey data using machine learning techniques like clustering, NLP, and topic modeling. The current system's slow processing—10,000 rows in 8 minutes—limits timely insights. To address this, we propose a scalable, cloud-based AI solution using AWS, enabling faster, more actionable insights to support engagement and decision-making.



FINDINGS

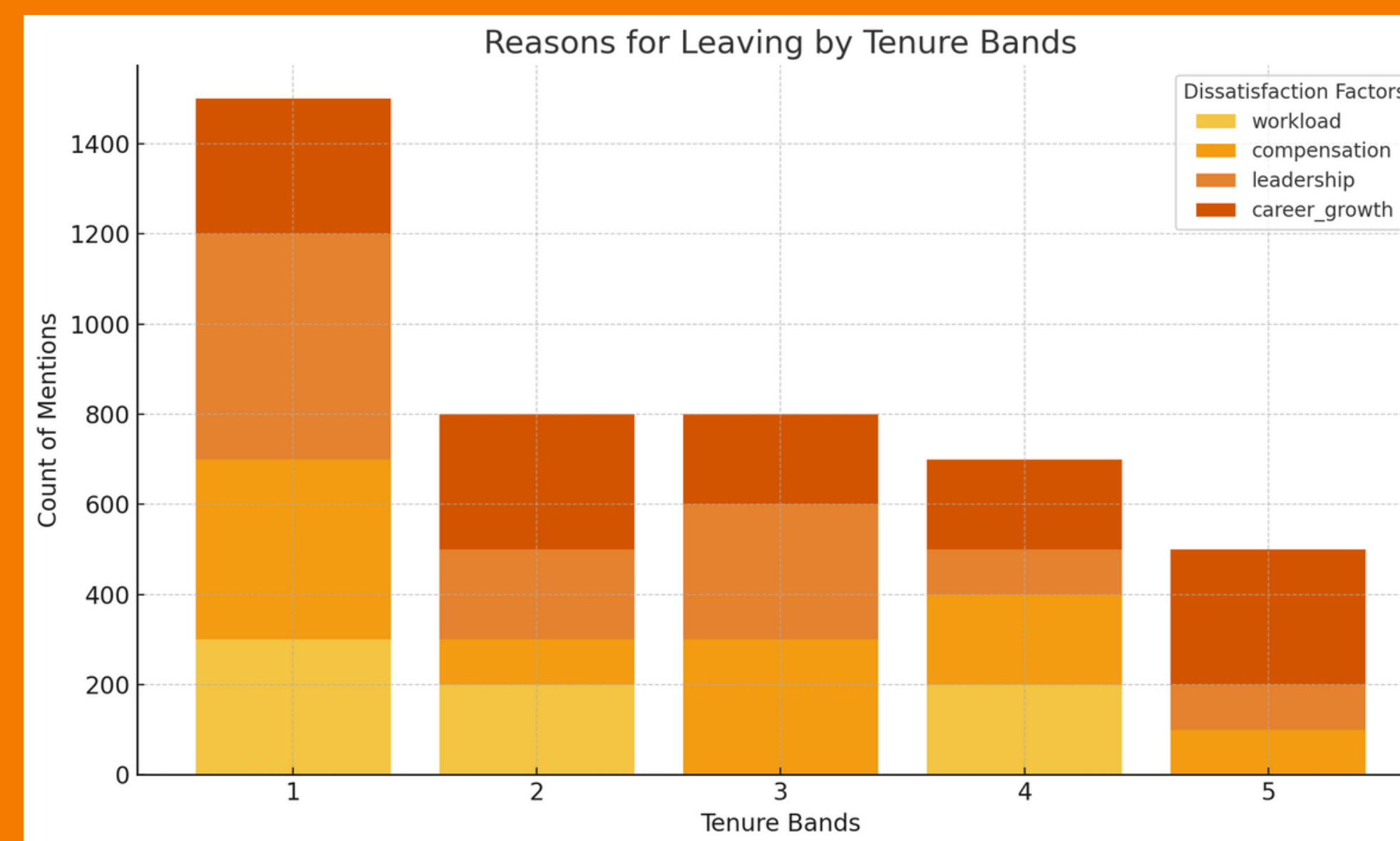
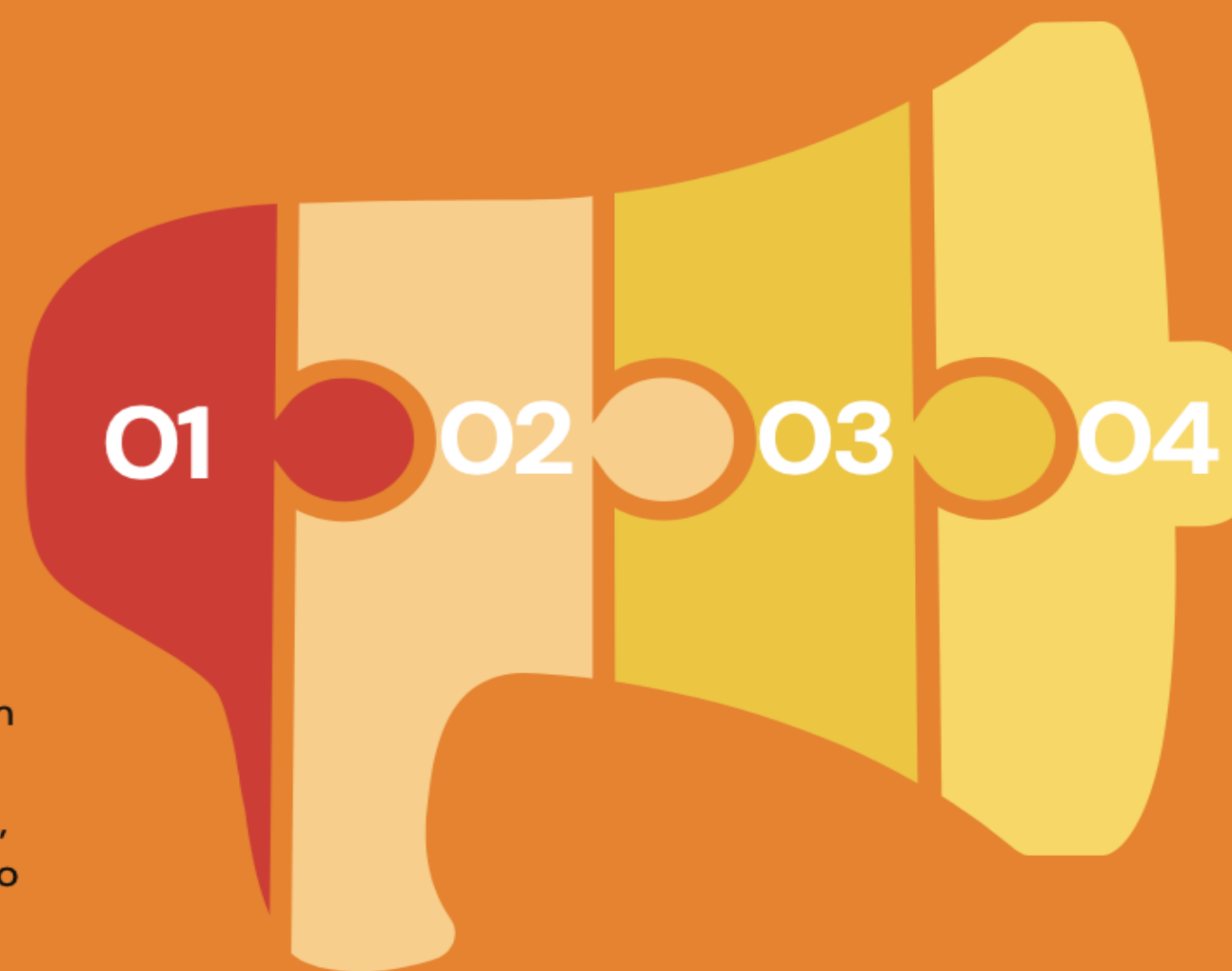
- Employees with the lowest tenure (Band 1) report the highest dissatisfaction, especially related to career growth, leadership, and compensation.
- The WI market has the highest number of complaints across all dissatisfaction factors, indicating potential burnout, poor compensation, and leadership issues in this region.
- The Midwest (MW) region has higher dissatisfaction levels compared to the Southeast (SE).



METHODS AND TECH

The data included structured responses and open-ended feedback from 10,000+ employees.

- 01 Clustering**
K-Means, DBSCAN
- 02 Topic Modeling:**
Latent Dirichlet Allocation (LDA)
- 03 NLP:**
To extract employee sentiment from open-text responses
- 04 Cloud Infrastructure:** AWS S3, Glue, Athena, Lambda, SageMaker, Cognito for secure, scalable analytics



INSIGHTS:

1. Many employees express concerns about the overwhelming workload and high stress levels.

2. There is a frequent mention of inadequate support from management, which contributes to employee dissatisfaction.

3. Opportunities for professional development and career advancement are limited, which is a significant reason for considering leaving the organization.

4. Employees value a supportive and inclusive work environment, which is linked to their reasons for staying.

5. There is a need for better communication within the organization, both between departments and from leadership.

RECOMMENDATIONS:

1. Implement flexible work schedules and reduce patient load to manage workload and stress.
→ Sample (Cluster 0): "Burnout Improvement: Offering flexible work schedules would help manage burnout."

2. Enhance management support through training and development programs for leadership.
→ Sample (Cluster 6): "Reason to Leave: The benefits package is inadequate."

3. Create more opportunities for career advancement and professional development.
→ Sample (Cluster 1): "Reason to Leave: There are limited opportunities for career advancement."

4. Foster a supportive and inclusive work culture through team-building activities and open communication.
→ Sample (Cluster 35): "Reason to Stay: The organization provides a supportive and collaborative environment."

5. Improve communication by establishing regular feedback sessions and transparent communication channels.
→ Sample (Cluster 12): "Reason to Leave: The communication within the organization is poor."

SUMMARY:

The employee feedback highlights concerns about workload, management support, and limited career advancement opportunities. Employees value a supportive and inclusive work environment and seek improved communication within the organization. Addressing these areas can enhance employee satisfaction and retention.

ANOMALIES:

→ Some employees express contradictory reasons for staying and leaving, such as feeling both appreciated and undervalued, which may indicate varying experiences across different departments or roles.

RESULTS

Tenure Band 1 employees (new hires) showed highest dissatisfaction.

Key issues:

- Workload
- Compensation
- Lack of leadership support.

Women focused more on career growth, men on compensation and workload.

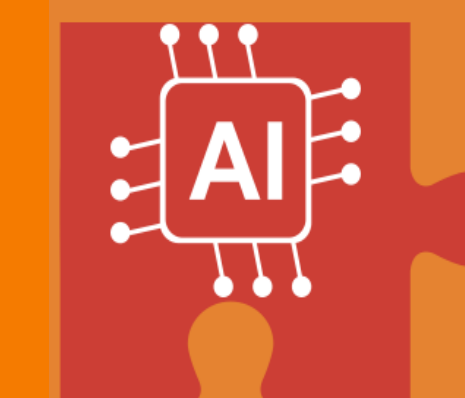
Midwest region (especially Wisconsin) showed highest dissatisfaction.

Clustering revealed distinct workforce segments needing targeted strategies.

Our system resulted in a 25% reduction in processing time

CONCLUSION

Our results confirm that early-tenure employees and those in the WI region experience the most dissatisfaction. Persistent workload and compensation issues suggest structural concerns. By using AI-based clustering and NLP models, Advocate Health can proactively identify and address dissatisfaction trends. Gender and regional differences highlight the importance of tailored HR policies.



AI-enhanced survey analysis allows real-time insights and targeted action.



Proactive retention strategies can be designed using data-driven models.



Final deployment of our system will lead to improved employee engagement, predictive HR analytics, and broader organizational value.

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Next Steps

Extend Beyond HR

Apply similar ML workflows to other Advocate Health business functions (e.g., patient satisfaction, operational efficiency).

Conduct Impact Assessment

Assess the impact generated by performing this survey-based workforce analysis.