# Data Analysis Project

## Data Analyst: Eligio Sanchez

**Stakeholders / Audience**

* HR Leadership.
* Department Managers.
* Executive Team.

## Purpose:

*The purpose of this project is to identify the key drivers behind the company’s high employee turnover rate and to understand the performance gaps among employees within the same departments.*

*The analysis focuses on tenure, compensation, performance scores, and employee satisfaction to determine whether structural or managerial factors are contributing to employee attrition.*

*The goal of this analysis is to provide leadership with clear, data-driven insights to prioritize retention strategies and address structural inefficiencies impacting employee performance and attrition.*

## Success Criteria:

* *Clear identification of departments with above-average turnover.*
* *Quantifiable linkage between satisfaction, compensation, and attrition.*
* *Actionable insights to support HR retention strategies.*

## Scope / Major Project Activities:

| Activity | Description |
| --- | --- |
| Performance Reviews Analysis | Analyze employee performance scores using a standardized 1–10 scale collected from managers. Scores are grouped to identify performance distribution and gaps within the same department. |
| Employee Satisfaction Analysis | Conduct an anonymous satisfaction survey among employees to capture engagement levels and overall sentiment. Results are aggregated and converted into satisfaction percentages by department. |
| Salary Comparison Analysis | Compare employee salaries internally across departments and externally against market benchmarks for similar roles and comparable tenure (±1 year). |
| Turnover Driver Identification | Identify the primary factors contributing to high turnover by analyzing relationships between turnover rate, tenure, salary competitiveness, performance scores, and satisfaction levels. |

**Key Definitions**

* Turnover Rate: Terminations divided by average headcount per period
* Below Market Salary: Salary gap < 0%
* Low Satisfaction: Satisfaction score < 7

## Risk & Assumptions:

* Survey responses are assumed to be honest
* Market benchmarks are simulated for analytical purposes

## Out of Scope

## Real-time or predictive analytics.

## External third-party employee datasets.

## Legal or compliance evaluation of compensation practices.

## Individual performance or disciplinary decisions.

## Deliverables:

*A specific list of things that your project will deliver.*

| Preliminar Dataset | **Performance fields, Satisfaction, Salaries and longevity** |
| --- | --- |
| Complete Dataset | **Ready for analysis and documented** |
| Descriptive Report | **Including initial visualizations** |
| Executive Report | **Summary of key findings, turnover drivers, and high-risk areas** |
| Final Dashboard | **Interactive KPIs for turnover, performance, satisfaction, and compensation** |

## Schedule Overview / Major Milestones:

*The expected schedule for the project. This can be defined by milestones (e.g. “all data is cleaned and processed”), periods of time (“Week 1 / Week 2”), or other ways based on the needs of the project.*

|  |  |  |
| --- | --- | --- |
| Milestone | Expected Completion Date | Description/Details |
| *Data Gathering* | *Week 1* | *Surveys Gatherings, Benchmarks and Salaries data.* |
| *Data Cleaning & Preparation* | *Week 2* | *Cleaning, Validation and Final dataset* |
| *Descriptive Analytics* | *Week 4* | *Performance Analysis, Satisfaction and Salaries* |
| *Turnover Analysis* | *Week 6* | *Identifying reasons of High Rotation* |
| *Stakeholder Review* | *Week 7* | *Validation of findings and alignment with HR* |
| *Dashboard & Recommendations* | *Week 8* | *KPIs, Insights and Recommendations for HR* |

## Estimated date for completion:

*This is my “if all goes well and I have everything I need, this is when I’ll be done” date.*

*2/28/2025*

*This project aims to provide data-driven insights to support HR and leadership decision-making related to employee retention and performance optimization.*

## Insight / Analysis Approach

**Insight 1 — Turnover Concentration Per Department**

*Where is the problem.*

Several departments—**Strategy, Marketing, and Sales**—consistently exhibit turnover rates **above the company-wide average** (27.8%), both in historical analysis and in the 2018–2020 period.

This pattern suggests that employee attrition is **not evenly distributed across the organization**, but rather concentrated in specific functional areas, making departmental-level analysis critical for effective intervention.

**SOW alignment:**  
✔ Identifies *where* turnover is concentrated  
✔ Supports prioritization of HR actions

**Insight 2 — Early-Stage Attrition as a Structural Pattern**

*When the turnover occurs.*

Employee exits are **heavily concentrated within the first year of employment**, indicating a strong pattern of early-stage attrition. While additional exits occur at later tenure stages, the first-year tenure bucket represents the most critical risk period for employee retention.

Differences between **voluntary and involuntary exits** are most pronounced during this early tenure stage, where voluntary turnover is notably higher.

**SOW alignment:**  
✔ Addresses tenure as a key analytical dimension  
✔ Identifies timing-related structural risks

**Insight 3 — Profile of Employees Who Exit**

*Who leaves the company.*

Employees who exit the company tend to show **lower overall satisfaction levels** compared to active employees, with an average satisfaction score of **5.8 versus 7.0**.

In terms of performance, most exits occur among **low to mid performers**, while high-performing and top-rated employees represent only a small portion of total exits.

Additionally, approximately **69% of exiting employees earn below market compensation**, indicating that salary competitiveness is a relevant factor within the broader attrition profile.

**SOW alignment:**  
✔ Connects performance, satisfaction, and compensation  
✔ Uses employee-level metrics defined in scope

**Insight 4 — Internal Salary Inequality as a Key Turnover Driver**

*Why they leave.*

Departments with elevated turnover rates frequently show **high internal salary dispersion**, regardless of whether their average compensation is above or below market benchmarks.

This indicates that **internal pay inequality**, rather than average salary level alone, plays a significant role in turnover patterns. Market competitiveness and internal dispersion often **coexist**, suggesting a combined effect rather than a single dominant factor.

No departments with above-market average pay exhibit high turnover within this dataset, reinforcing the importance of **internal equity** over absolute pay levels.

**SOW alignment:**  
✔ Directly supports “Turnover Driver Identification”.  
✔ Differentiates market competitiveness from internal structure.

**Insight 5 — Primary Reasons Behind Voluntary Exits**

*Qualitative Drivers.*

Among voluntary exits, the most frequent exit reasons fall into **Career Growth** and **Compensation** categories, followed by **Culture / Fit**.

This distribution suggests that employees who choose to leave are primarily motivated by **long-term development and perceived fairness**, rather than short-term performance or isolated events.

**SOW alignment:**  
✔ Integrates qualitative and quantitative analysis.  
✔ Supports actionable HR decision-making.

## Executive Summary

* Departments with high internal salary dispersion may benefit from evaluating their compensation structures to improve internal equity.
* The first year of employment represents a critical risk period, suggesting that enhanced onboarding and early engagement initiatives could be evaluated to improve retention.
* Retention efforts may be prioritized in departments that consistently exceed company-wide turnover benchmarks.