

## **Case Study: The Loyalty Blueprint: Understanding Employee Retention Through Data Analytics**

### **Objective**

To identify what keeps employees loyal and engaged by analyzing key factors influencing retention. This project is Part 2 of a two-part HR analytics series, following *The Exit Equation*, which explored why employees leave.

### **Background**

High turnover costs aren't just financial, they're operational, cultural, and strategic. While many HR reports focus on attrition, far fewer shine a light on what retention truly looks like. This project flips the narrative: instead of analyzing exits, it spotlights the profiles of employees who stay.

### **Tools Used**

- MySQL- for data cleaning, transformation, and segmentation
- Excel- for KPI dashboards, charts, and storytelling layout

### **Data Overview**

Using mock HR data from 1470 employees, I transformed raw tables into structured insight blocks, segmenting the data by:

- Salary Hike Percentage Bands
- Stock Option Levels
- Job Involvement Ratings
- Manager Tenure Buckets
- Environmental & Job Satisfaction

### **Key Business Questions**

- What salary adjustments are most associated with retention?
- Does stock option level correlate with employee loyalty?
- How do engagement metrics like job involvement impact retention?
- Can managerial tenure predict team stability?

## Insights Uncovered

- **Salary Hike:** Employees who received 17-19% salary hikes had the highest retention rates, signaling that moderate, strategic raises can drive long-term loyalty more than minimal or excessive ones.
- **Stock Options Level 2: Loyalty Engine**  
Among all levels, Stock Option Level 2 showed the strongest retention. This may reflect a balance between employee motivation and attainable incentives.
- **Job Involvement Level 4: Lowest Attrition**  
Highly engaged employees (rated 4/4 in job involvement) had the lowest attrition, reinforcing the link between perceived purpose and staying power.
- **Manager Tenure & Stability**  
Employees under managers with 5+ years of tenure showed higher retention, suggesting that leadership consistency improves team trust and satisfaction.

## Challenges & Solutions

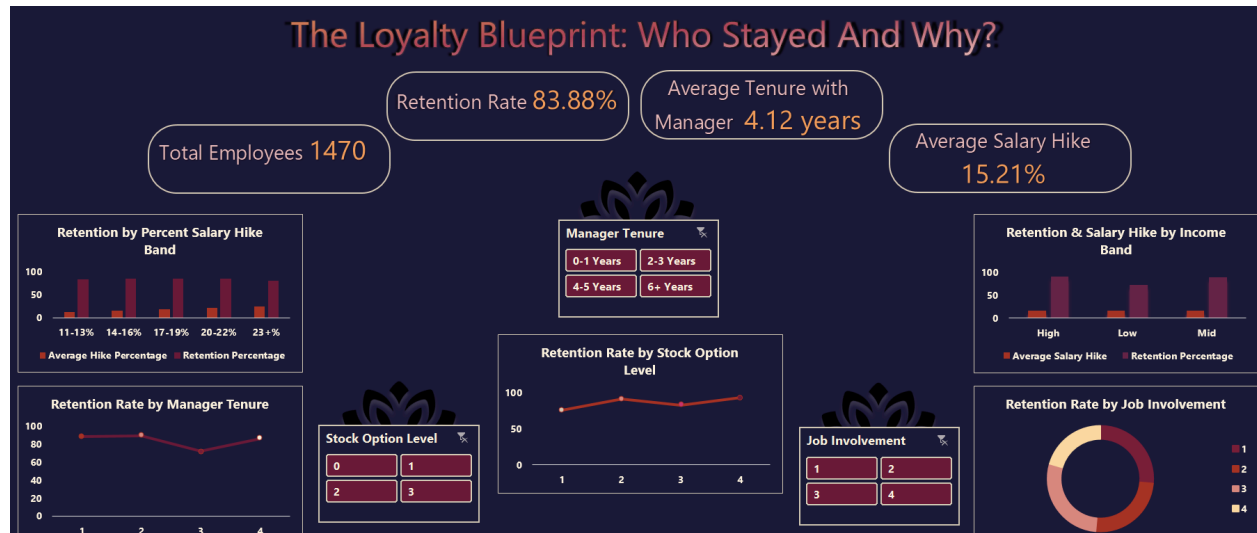
- **Data Inconsistency:** Several variables lacked structure, especially satisfaction ratings and hikes & fields. I used SQL logic to bin continuous variables and impute missing values where relevant.
- **Defining Meaningful Segments:** Instead of relying on raw metrics, I created custom bands for salary hikes, manager tenure, and job involvement to better reflect behavioral patterns in the data.

## Why It Matters

This project goes beyond surface-level retention reporting. It offers a strategic view of loyalty, built on structured data, SQL transformations, and clean visual narratives.

The result? A dashboard that doesn't just report, it informs action. It gives HR teams insight into which segments to reward, where to improve manager stability, and how to retain top talent before it's too late.

## Dashboard Screenshot:



## What I'd Explore Next

If this were a real-world engagement:

- Add exit interviews, and performance reviews for multi-layered analysis
- Compare high retention teams vs low retention teams for culture clues
- Build a predictive model for flight risk using logistic regression

## Explore the Project

- [GitHub Repo](#)
- Portfolio