NEON HR ANALYTICS CASE STUDY:
Employee Attrition & Workforce Insights

By Aaron Goldman

Dataset Size: 18,500 Employees

EXECUTIVE SUMMARY

WORKFORCE CHALLENGE: ATTRITION RATE & WAGE COMPRESSION

20.15%
ATTRITION RATE

Driven by early-tenure losses and wage compression in critical roles.

KEY FINDINGS

- **3,728 EXITS:** Sales, HR, & Operations show steepest departmental churn (up to 21.4%).
- **EARLY-TENURE LOSSES:** 0–3 year employees account for majority of turnover.
- **PAY GAPS:** Up to $27K spread between technical & operational departments.
- **LEADERSHIP GAPS:** Strong overall gender balance, but leadership representation persists.

STRATEGIC TAKEAWAY

EARLY ENGAGEMENT

COMPENSATION REALIGNMENT

TARGETED LEADERSHIP DEVELOPMENT

Impactful levers for reducing attrition and strengthening workforce stability.

The Problem: A Workforce Losing Momentum

18.5K Workforce Experiencing Significant Friction

WORKFORCE FRICTION POINTS

Rising Attrition: Draining productivity and replacement costs

Pay Inconsistencies: Fueling wage-driven turnover

Talent Development Gaps: Limiting leadership progression. Young workforce leaves quickly if career traction is unclear.

THE NEED FOR CLARITY & ROI

HR leaders needed a clear answer: "Where are we losing talent, why is it happening, and what interventions will deliver the highest ROI?"

The **dashboard** was built precisely to uncover this **narrative.**

STRATEGIC QUESTIONS GUIDING THE ANALYSIS

What drives the 20.15% attrition rate?

Which departments face the highest turnover?

How do age, tenure, and education impact quit behavior?

Are salary levels competitive and equitable across job families?

What does workforce composition and diversity look like today?

These questions shaped the SQL engineering, data modeling, and Power BI design pipeline.

SQL

Power BI

NEON HR ANALYTICS:
WORKFORCE SNAPSHOT & KEY METRICS

BASELINE WORKFORCE METRICS

TOTAL EMPLOYEES:
18,500

ACTIVE EMPLOYEES:
15,000

EXIT COUNT:
3,728

ATTRITION RATE:
20.15%

DEPARTMENTAL PAIN POINTS

SALES ATTRITION:
21.4%

OPERATIONS ATTRITION:
20.34%

WORKFORCE COMPOSITION

GENDER BALANCE:
~50/50

LEADERSHIP GAP:
LOW FEMALE REPRESENTATION

COMPENSATION REALITY

PAY SPREAD:
UP TO $27K GAP

TECHNICAL VS. OPERATIONAL ROLES

THE DASHBOARD UNCOVERS THE CORE CHALLENGE: HIGH ATTRITION & SIGNIFICANT PAY DISPARITIES

Story Point: The First 24 Months Are Critical

Employees do not leave at the end of their journey — they leave at the beginning.

Tenure Attrition Analysis

Meaning: Make-or-Break Factors

- Onboarding
- Role Fit
- Culture Integration
- Early-Career Support

Department Story: Where the Losses Concentrate

A deeper look into departmental churn reveals:

Sales

- High-pressure, customer-facing, compensation-driven turnover

RISK: HIGH

Operations

- Lower pay, high workload → elevated churn

RISK: ELEVATED

Marketing & Support

- Mid-level risk, accelerated attrition for early careers

RISK: MID-LEVEL

HR

- Reflects systemic workload and pay compression challenges

RISK: SYSTEMIC

This identifies clear **hotspots** where **tailored interventions** could drastically lower turnover.

NEON HR ANALYTICS CASE STUDY: COMPENSATION STORY & ATTRITION CORRELATION

The Quiet Force Behind Attrition: Market Pay & Compression

HIGHEST & LOWEST SALARY PATTERNS

LEAD

R&D: $96K

IT: $86K

LOWEST EXPOSURE

OPERATIONS: $69K AVERAGE

SUPPORT & HR: SIMILAR BANDS

Significant pay spreads — up to $27K — exist between technical and operational roles.

ATTRITION & PAY CORRELATION DATA

BOTTOM QUARTILE EARNERS: 2.3x MORE LIKELY TO QUIT

PAY COMPRESSION → STRONGLY CORRELATES WITH → DEPARTMENTAL ATTRITION

Salary spikes occur at ages 45–54 and 55+

STRATEGIC INSIGHT: MARKET VALUE

INSIGHT: EMPLOYEES LEAVE NOT BECAUSE THEY DISLIKE THE COMPANY — THEY LEAVE BECAUSE THE MARKET PAYS MORE FOR THEIR SKILLS.

- **Strategic Action:** Competitive adjustments for high-turnover roles & market benchmarking are crucial levers.

METHODOLOGY & TOOLS OVERVIEW

Neon HR Analytics Case Study — Workforce & Attrition Insights

DATA ENGINEERING WORKFLOW

- Cleaned 18.5K employee records
- Standardized department, education, and job role fields
- Repaired inconsistent dates and removed duplicates
- Created analytics-ready features (Tenure, Age Buckets, Salary Bands)

SQL + POWER BI INTEGRATION

- SQL transformations ensured accuracy and efficiency
- Power BI visualizations enabled interactive insights
- Cross-highlighting used to expose root drivers of attrition, inequity, and demographic patterns

TOOLS USED

- SQL Server (ETL + Modeling)
- Power BI (Dashboard + DAX)
- Excel (Initial structure validation)

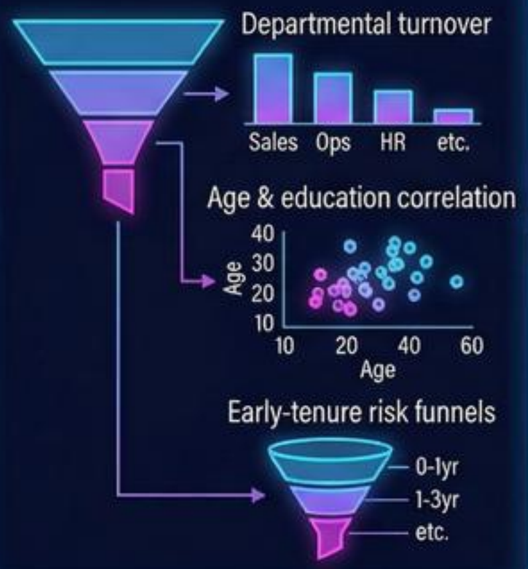
Dashboard Walkthrough: A Guided Story

Each view acts as a chapter in the larger workforce story

1. KPI Overview

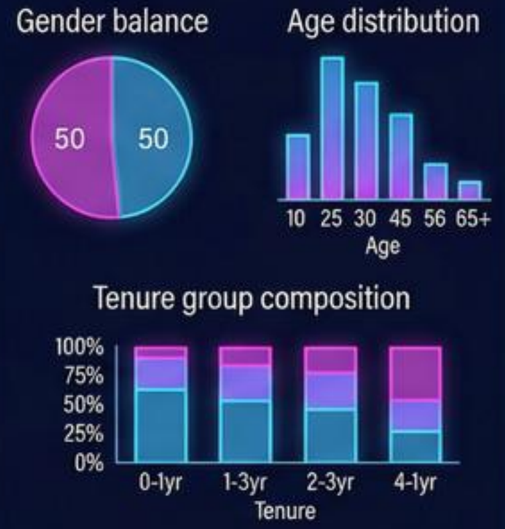
Core Workforce Health Metrics

2. Attrition Analysis



3. Compensation Mapping

4. Diversity & Demographics



The dashboard was built precisely to uncover this narrative

NEON HR ANALYTICS: STRATEGIC HIGH-ROI INTERVENTIONS

ACTIONABLE RECOMMENDATIONS FOR WORKFORCE TRANSFORMATION

1. IMPROVE RETENTION IN HIGH-RISK DEPARTMENTS

- Targeted exit-interview action plans to uncover root causes.
- Balanced workload redistribution for sustained performance.
- Tailored retention bonuses for key personnel.

2. STRENGTHEN EARLY-TENURE EARLY-TENURE ENGAGEMENT

- Mentorship programs for 0–3 year employees.
- Onboarding redesign to enhance integration.
- Early performance coaching and support.

3. COMPENSATION ADJUSTMENTS

- Market benchmarking for competitive salary positioning.
- Salary band compression fixes to ensure equity.
- Competitive adjustments for high-turnover roles.

4. DIVERSITY & INCLUSION INCLUSION INITIATIVES

- Leadership pipeline development for underrepresented groups.
- Department-level representation tracking and analysis.
- Sponsorship programs for women and minorities.

5. WORKFORCE PLANNING PLANNING ENHANCEMENTS

- Attrition forecasting for proactive talent management.
- Internal mobility pathways to foster career growth.
- Long-term succession planning for organizational stability.

TRANSFORMATION: PROACTIVE TALENT STRATEGY TO DRIVE MEASURABLE BUSINESS IMPACT.

NEON HR ANALYTICS CASE STUDY:

Competencies Demonstrated

By Aaron Goldman

Data Engineering in SQL

Cleaning, transforming, and modeling HR datasets in SQL. Ensuring data accuracy, repair, and standardization for robust analysis.

Power BI Dashboarding with DAX

Advanced KPI design, cross-highlighting, and interactive visual storytelling. Utilizing DAX measures for complex calculations.

Workforce Analytics

Attrition modeling, compensation pattern identification, demographic analysis, and predictive insights into workforce dynamics.

Business Strategy & Storytelling

Turning data into executive-ready insights and actionable recommendations. Crafting a compelling narrative for senior leadership.

ROI-Focused HR Consulting

Linking analytics to measurable business outcomes, financial impact, and strategic decision-making.

BUSINESS IMPACT: What the Organization Gains

Quantified Benefits & Strategic Transformation

1. Attrition Reduction:

10–20% decrease in high-risk areas → **~$3M** annual savings

2. Pay Equity & Satisfaction:

+8 point fairness improvement → stronger retention

3. Leadership Diversity Pipeline:

40% lift in female leadership representation

4. Faster Hiring & Workforce Planning:

12% reduction in time-to-fill → efficiency + lower cost

TRANSFORMATION: From reactive backfilling → to **proactive talent strategy.**

Conclusion: The Complete Story

Wraps up the narrative: why employees leave, where vulnerabilities lie, how compensation drives turnover, what workforce patterns define the company, and which actions yield highest ROI. Demonstrates end-to-end analytics from SQL to executive strategy.

- **Why employees leave:** Early tenure, compensation, and lack of career traction.
- **Where the organization is most vulnerable:** Sales, Operations, and HR departments.
- **How compensation structures shape turnover:** Significant pay gaps and market-driven exits.
- **What workforce patterns define the company:** Young, balanced, with leadership gaps.
- **Which actions will drive the highest ROI:** Targeted retention, onboarding, and compensation adjustments.

Transformation: From reactive backfilling → to proactive talent strategy.

It demonstrates **full-stack analytics capability** — from SQL engineering to **dashboard storytelling** to **executive strategy**.