Who's Leaving and Why: A Data-Driven Look at Employee Attrition

Part 1 of the HR Analytics Series

TL;DR

Analyzed 1470 employee records to uncover patterns in attrition across departments, roles, and work conditions. It was found that fresh hires, sales representatives, and employees working overtime had the highest churn risk. The recommendations focus on onboarding improvements, burnout prevention, and compensation realignment.

Project Background

In today's workforce, attrition isn't just an HR metric; it's a warning signal. This project investigates *who* is leaving, *why*, and what businesses can do about it.

Problem Statement

"Why are we losing employees, and which cohorts are most at risk?"

A fictional HR team is facing rising turnover without insights into the root causes. This analysis equips them with data-backed recommendations to protect talent and culture.

Dataset Overview

- Source: Synthetic HR dataset
- Sample: 1470 employees
- Columns: Demographics, department, job role, income, satisfaction scores, overtime status, and attrition flag.

Tools Used

- Microsoft Excel: Pivot tables, segmentation, interactive dashboard
- *Note*: A scalable SQL version of this project is available in Part 2- The Loyalty Blueprint

Approach

- Created a pivot-powered dashboard

- Segmented employees by tenure, department, job role, gender, overtime, income, and satisfaction

- Goal: Identify high-risk segments and recommend targeted retention strategies

Key Attrition Breakdown

Here's a breakdown of where attrition is most concentrated across employee segments.

| Segment	Attrition Rate
Total Attrition	16.12%
Fresh Hires	34.88%
Older Hires	12.91%
Sales Department	20.63%
Sales Representatives	39.76%
Males	17.01%
Females	14.80%
Employees with Overtime	30.53%
Left despite no Overtime	10.44%

Key Insights & Implications:

- **Onboarding Breakdown**: Fresh hires showed a 34.88% attrition rate, nearly triple that of experienced employees.
  Recommendation: Strengthen onboarding and provide targeted support during the first 90 days to reduce early-stage churn.

- **Sales = Stress?** Sales Representatives had a 39.76% attrition rate, 4x higher than the company average.
  Recommendation: Re-evaluate KPIs, performance pressure, and burnout risks in quota-driven roles.

- **Gender Trends:** Male employees had a slightly higher attrition (17.01%) than female employees (14.80%).
  Recommendation: Audit role distribution and promotion equity to ensure fair career progression across genders.

- **Overtime = Exit Risk:** Employees working overtime had 30.53% attrition, 3x the rate of those who didn't.
  Recommendation: Implement guardrails around overtime and monitor burnout signals more closely.

- **Income & Retention-** Lower-income employees faced 28.61% attrition, with higher bands showing stronger retention.
  Recommendation: Improve pay transparency and career progression visibility for lower-band employees.

Dashboard Preview
A snapshot of the Excel dashboard showing department-level churn, role-specific risks, and satisfaction breakdowns.
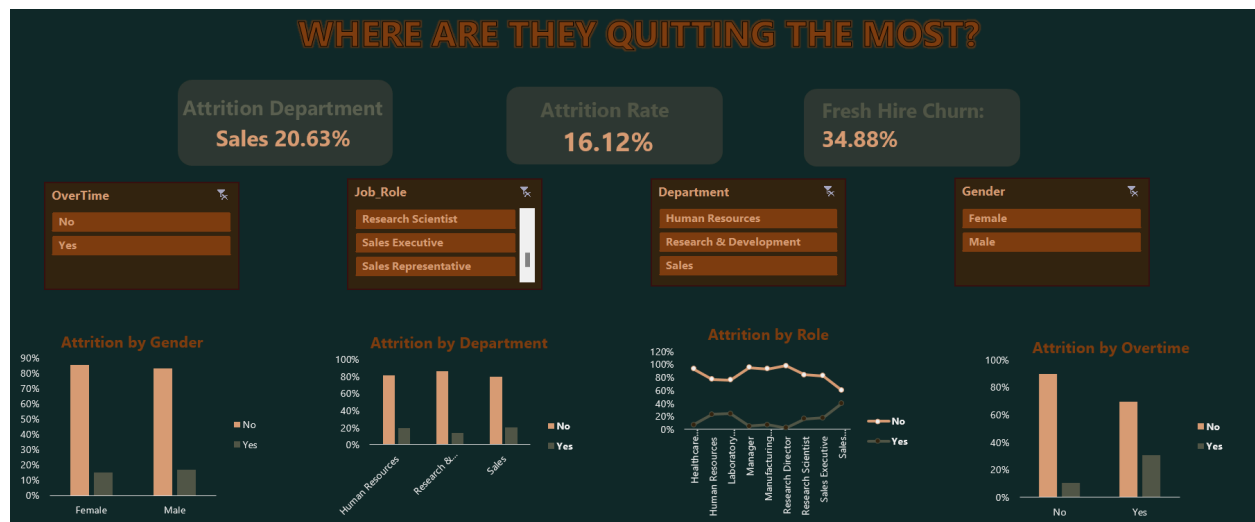
What I'd Explore Next
If this were a real consulting engagement:

- Integrate exit interview data for qualitative insights
- Run time-series analysis to explore seasonal churn patterns
- Layer in engagement survey data to uncover predictive signals
- Analyze promotion history for career stagnation risks
- Compare trends across remote vs in-office roles

Why This Project Matters

Attrition doesn't just impact HR, it drains revenue, disrupts teams, and erodes culture. This analysis enables decision-makers to move from reactive exits to proactive retention strategies.

It also demonstrates:

- Strategic thinking rooted in HR business context
- Proficiency in Excel dashboard design and segmentation

- The ability to turn raw data into stakeholder-ready insights

Final Thought

"Data is only valuable when it drives decisions, and this analysis helps HR leaders do exactly that."

Explore The Project
- [GitHub](#)
- [Portfolio](#)