

ANALYZING EMPLOYEE ATTRITION PATTERNS USING EXCEL DASHBOARDS AND PIVOTTABLES

1. Background and Problem Statement:

An IT services company with around 300 employees across departments like Development, Testing, HR, and Sales approached us to analyze employee attrition patterns over the last 2 years. They had employee-level data but lacked an analytical reporting system. The goal was to build a **comprehensive, Excel-based reporting solution** to monitor attrition and identify segments with high turnover risk.

2. Objectives:

- Identify which departments, experience levels, or demographics have high attrition
- Summarize key metrics using PivotTables and Excel formulas
- Build an interactive dashboard for internal HR teams to monitor employee exits
- Present visual reports that can help in workforce planning and retention strategies

3. Methodology:

3.1 Dataset Overview

- **Observations:** 300 employee records
- **Key Fields:**
 - Employee ID
 - Department
 - Age
 - Gender
 - Joining Date
 - Exit Date
 - Status (Active/Exited)
 - Monthly Salary
 - Job Role

- Region

3.2 Data Preparation in Excel

- Calculated Tenure (in months) using =DATEDIF(Joining_Date, Exit_Date, "m")
- Created Attrition Flag column using =IF(Status="Exited",1,0)
- Grouped age and tenure into buckets using IFS() and VLOOKUP()
- Cleaned nulls, removed duplicates, standardized department names

4. Analysis Performed:

4.1 Descriptive Summary

- Used COUNTIFS() to compute attrition rate by department, gender, and age group
- Created dynamic summaries using **PivotTables** with filters by department and region
- Sample Output:
 - Overall Attrition Rate: **18.7%**
 - Highest Attrition: **Testing Department (28%)**
 - Age Group 25–30 showed highest churn (40% of exits)

4.2 Interactive Dashboard Components

- Slicers for Department, Gender, and Region
- KPI Tiles: Total Employees, Active Employees, Exits, Attrition %
- Charts:
 - Bar chart: Attrition by Department
 - Donut chart: Active vs. Exited
 - Line chart: Monthly Attrition Trend
 - Heatmap: Attrition by Department and Age Group

5. Excel Deliverables:

- **Master Data Sheet:** With formulas for tenure, age bucket, attrition flag
- **Pivot Sheet:** Departmental summaries, slicer-enabled tables
- **Dashboard Sheet:** Interactive visualization panel for HR review

- **Report Sheet:** Summary tables and recommendations for PDF export

6. Findings and Recommendations:

- Testing team showed **consistently high attrition**, particularly among junior employees
- Employees with tenure below 12 months accounted for **60% of all exits**
- Female attrition was highest in Sales, suggesting possible work-life imbalance
- Recommend focused **exit interviews, early engagement programs**, and department-specific retention efforts

7. Stakeholder Relevance:

Academic:

- Demonstrates use of Excel for practical HR analytics
- Covers descriptive analysis, KPI derivation, and dashboarding

Corporate:

- Enables **HR teams to self-monitor attrition** using built-in Excel tools
- Provides quick visual insights for management and retention strategy planning