HR Analytics Project Report

Employee Attrition Analysis Using Excel

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The Challenge

Understanding Employee Attrition

Employee attrition directly impacts productivity, morale, and operational costs. This project analyzes HR data using Microsoft Excel to identify key drivers of turnover and provide data-driven retention strategies.

Project Objectives

- Identify patterns and trends in attrition
- Determine key factors contributing to turnover
- Provide actionable recommendations

Dataset Overview

IBM HR Analytics Employee Attrition dataset with **1,470 employee records** and **35 attributes**.

Demographics

Age, Gender, Department, Job Role

Compensation

Monthly Income, Years at Company

Satisfaction

Job Satisfaction, Work-Life Balance

Target Variable

Attrition (Yes/No)

Tools & Techniques

Pivot Tables & Charts

Data summarization and visual analysis

Excel Formulas

IF, COUNTIF, AVERAGEIFS functions

Interactive Dashboard

Real-time insights visualization

Data Cleaning Process

01

Verify Data Types

Corrected numerical and categorical fields

02

Check Completeness

Verified no missing values

03

Remove Duplicates

Ensured unique records

04

Create Derived Columns

Added attrition risk indicators

Exploratory Data Analysis

By Department

Research & Development experienced higher attrition rates compared to other departments.

By Job Role

Sales Executive, Research Scientist, and Laboratory Technician showed higher turnover.

Pivot Table: Department vs Attrition

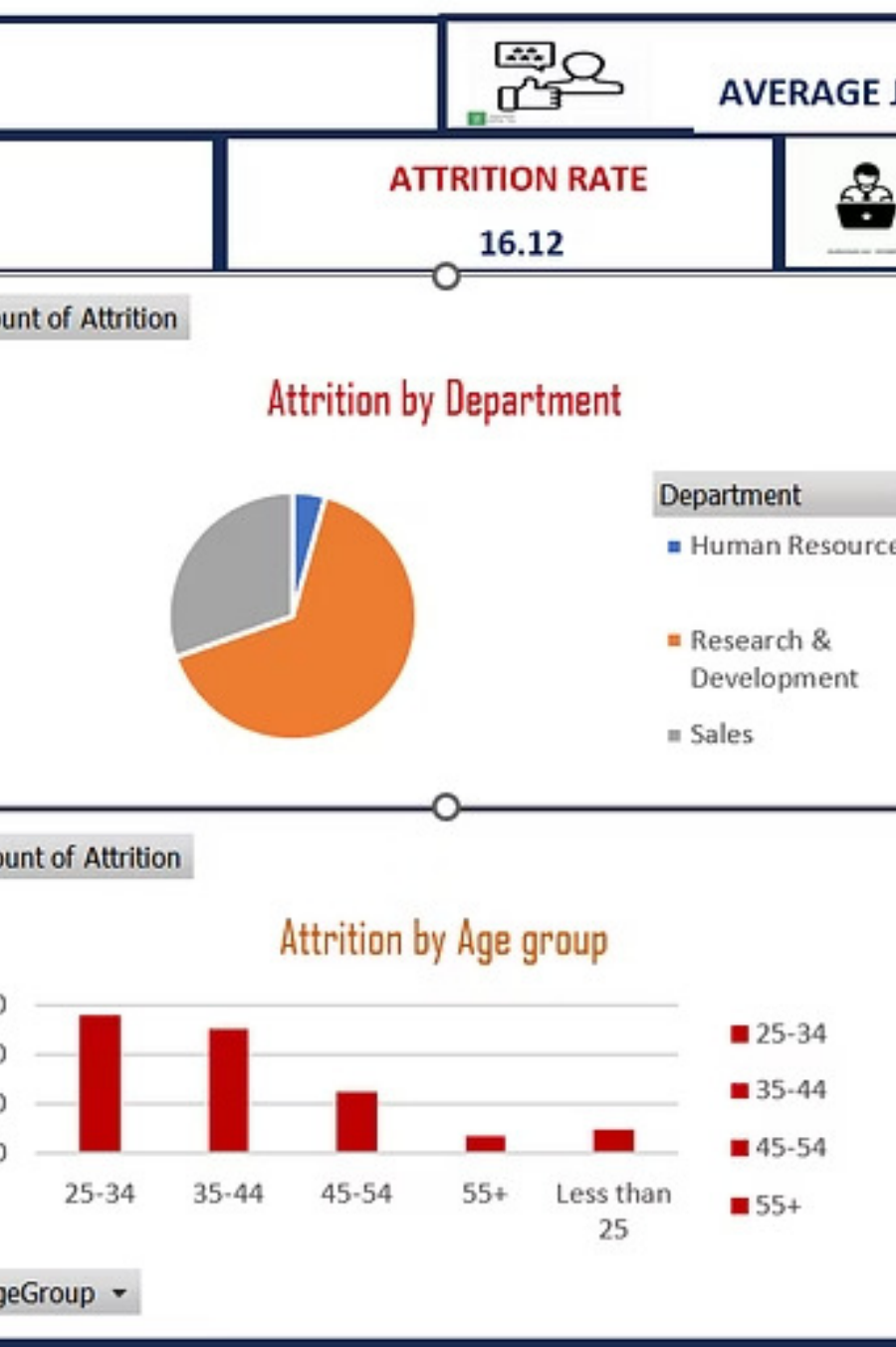# Demographics & Satisfaction Impact

Age Group 25-34

Highest attrition rate among all age groups

Gender Gap

Male employees experience higher attrition than female

Job Satisfaction

Lower satisfaction strongly correlates with higher turnover

Made with **GAMMA**

Interactive Dashboard

Dashboard includes total employees, overall attrition rate, attrition by department/role, and satisfaction metrics—enabling stakeholders to quickly identify high-risk segments.

What the Data Reveals

Sales & R&D departments have highest attrition rates

Low job satisfaction is a major turnover contributor

Shorter tenure employees more likely to leave

Certain job roles show consistently higher attrition

Business Recommendations

Engagement Programs

Targeted mentorship for high-attrition departments

Regular Surveys

Proactive satisfaction monitoring

Onboarding

Strengthen new hire programs

Career Growth

Review compensation and opportunities

This analysis demonstrates Excel's power for HR analytics, providing valuable insights to improve retention and workforce stability.