HR Analytics

Delving into the world of human resources, with a keen eye on data analysis to optimize talent management and organizational performance.

OUTLINE

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➔ Documentation of cleaning and manipulations

➔ Summary of data analysis

➔ Key visualizations and findings

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Introduction

HR employee attrition is all about demystifying the in-depth causes why employees leave an organization.

HR attrition dashboard was divided into 4:

Demographics; summarize employee statistics such as age group, gender, marital status, etc.

Turnover Analysis I; summarize employee attrition by job roles, years in current roles, etc.

Turnover Analysis II; features attrition by monthly income, overtime, etc.

Employee Wellness; provides insight to performance rating, job satisfaction, work-life balance, etc.

Data Source

Dataset was gotten from meriskill Internship program.

Data contained 1471 rows and 35 columns of sales data from an organization pertsining human resource department for a period of 40 years.

This dataset is deemed credible.

Documentation of cleaning and manipulations

- Data was downloaded and stored using the appropriate file naming convention.
- Tools employed for analysis were PowerBI.
- I uploaded the dataset on PowerBI using the 'Get Data' option, and then proceeded to transform the data.

Data Cleaning:

- Deleting redundant columns.
- Renaming the columns.
- Dropping duplicates.
- Cleaning individual columns.
- Remove the NaN values from the dataset
- Then I proceeded to making visualizations while uncovering trends and gathering insights.

Summary of data analysis

Total employees- 1470

Active employees- 1233

Total attrition- 237

Average monthly income- $6500

Average working years- 11.28

Average hourly rate- 65.89

Average hourly rate- 65.89Attrition in this case study is 16% with a notable higher attrition rate among male (150) than female (87). Single individuals had higher attrition rate (120) than married (84) and divorced (33) combined. The 31-45 age group has the highest attrition rate when compared to the other age groups.

Based on department, research and development (133) took the lead while sales (92) and Human resources (12) followed. Based on performance rating, low/poor performance rating topped the attrition chart which is ideal as low performing workers have no place to idle away.

As regards employee wellness, moderate job involvement and very dissatisfied staff (Environment satisfaction) had the highest attrition rate. The Irony of it all is having a higher attrition rate from those satisfied with their job and relationship and those with good work life balance.
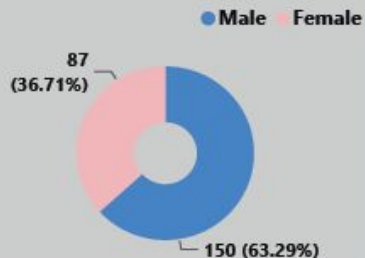
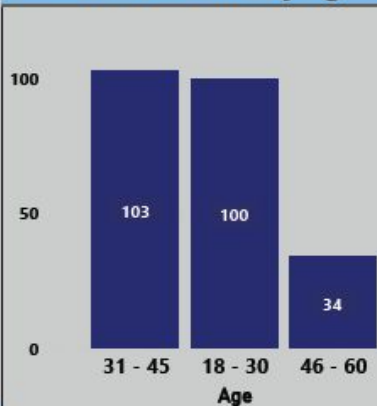# Key visualizations and findings
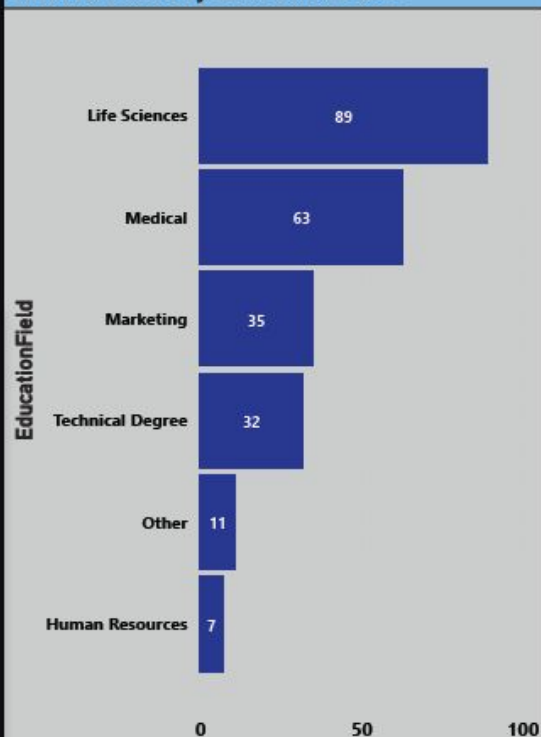
DEMOGRAPHICS
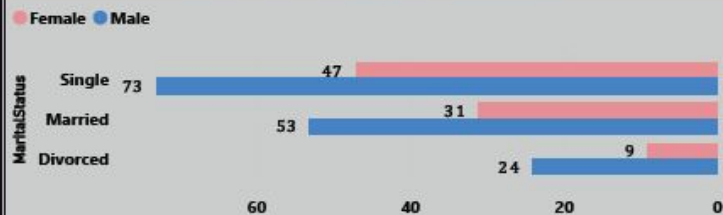
Total Employees

1470

Total Attrition by Gender

- ● Male ● Female

87
(36.71%)

150 (63.29%)

Total Attrition by Age

103 (31 - 45)	100 (18 - 30)	34 (46 - 60)

Age values: 103, 100, 34

Age categories: 31 - 45, 18 - 30, 46 - 60

Total Attrition by Education Field

EducationField

- Life Sciences — 89
- Medical — 63
- Marketing — 35
- Technical Degree — 32
- Other — 11
- Human Resources — 7

(0, 50, 100)

Total Attrition by Marital Status

- ● Female ● Male

MaritalStatus

	Male	Female
Single	73	47
Married	53	31
Divorced	24	9

(60, 40, 20, 0)

Total Attrition by Work Life Balance

WorkLifeBalance

- Good — 127
- Average — 58
- Excellent — 27
- Bad — 25

(100, 50, 0)
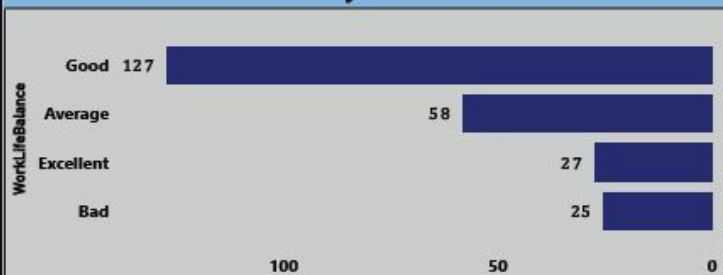
Total Attrition by Distance From Home

DistanceFromHome

- Near — 144
- Far — 48
- Very Far — 45

(150, 100, 50, 0)
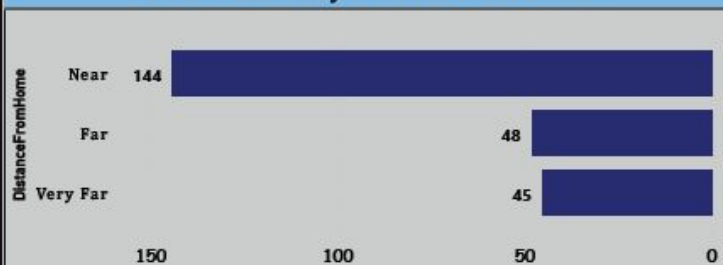
TURNOVER ANALYSIS I

Average Working Years

11.28

JOB ROLE COUNT

9

Total Attrition by Job Role

● Female ● Male

JobRole	Value
Laborator...	62
Sales Exe...	57
Research ...	47
Sales Rep...	33
Human R...	12
Manufact...	10
Healthcar...	9
Manager	5
Research ...	2
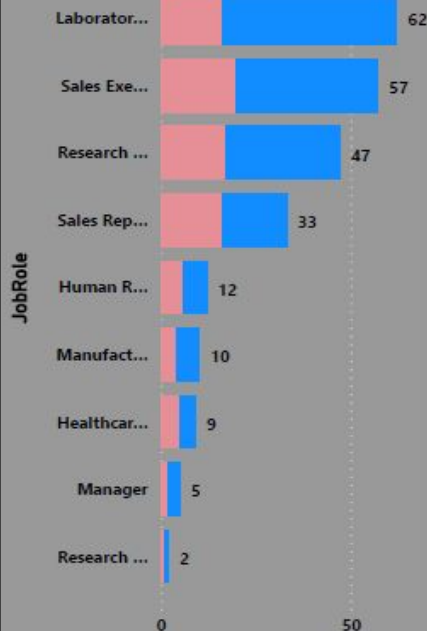
Total Attrition by Department

12 (5.06%)

92 (38.82%)

133 (56.12%)
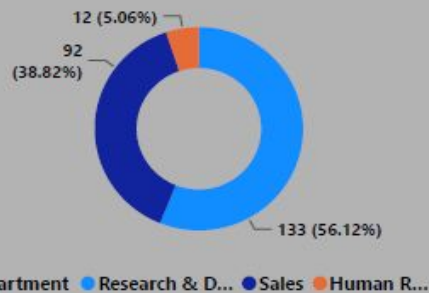
Department ● Research & D... ● Sales ● Human R...

Total Attrition by Business Travel

● Female ● Male

Travel_Rarely

Travel_Frequently

Non-Travel

0   50   100

JobRole	Sum of attrition count
Healthcare Representative	9
Human Resources	12
Laboratory Technician	62
Manager	5
Manufacturing Director	10
Research Director	2
Research Scientist	47
Sales Executive	57
Sales Representative	33
Total	237

Total Attrition by Years In Current Role

Department ● Human Resources ● Research & Development ● Sales
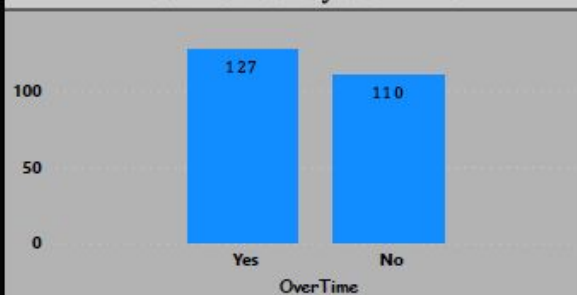
YearsInCurrentRole

TURNOVER ANALYSIS II

Monthly Income and Attrition by Job Role
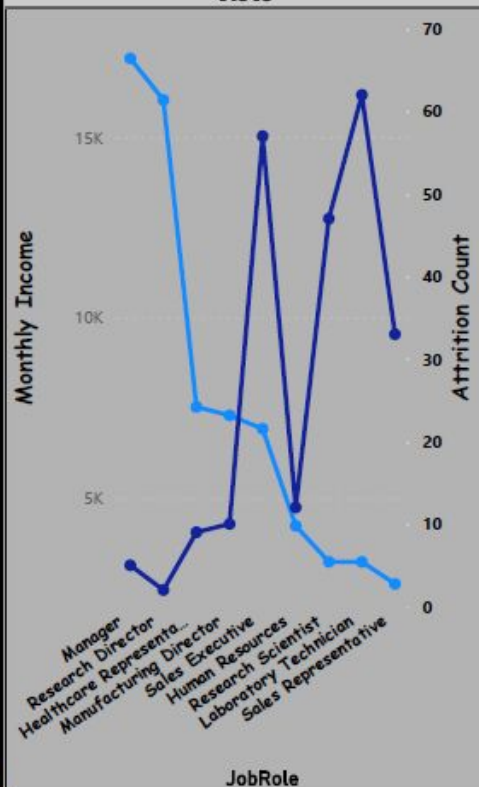
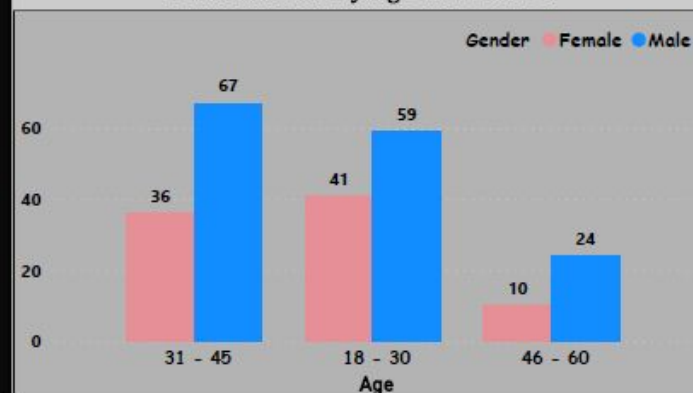## Total Attrition by OverTime

OverTime	Count
Yes	127
No	110

Total Attrition by Performance Rating

PerformanceRating
- Low
- High

37 (15.61%) — High
200 (84.39%) — Low

Total Attrition by Job Level

100%

Job Level	Count
Entry Level	143
Junior or Associate	52
Mid level Specialist	32
Executive	5
Senior	5

3.5%
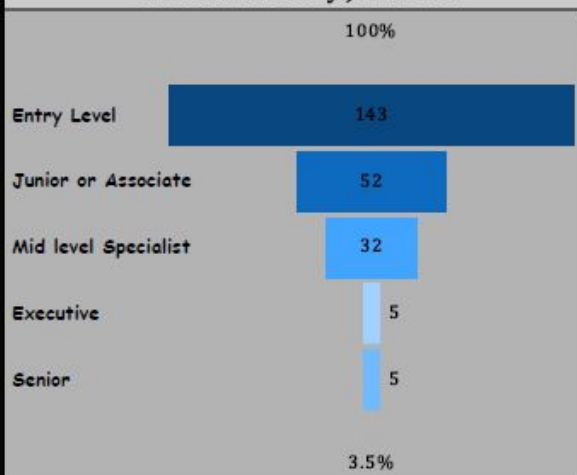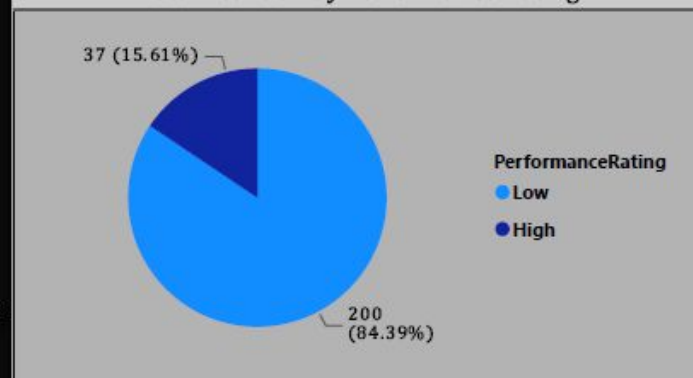
Total Attrition by Age and Gender

Gender: Female, Male

Age	Female	Male
31 – 45	36	67
18 – 30	41	59
46 – 60	10	24

EMPLOYEE WELLNESS

AVERAGE MONTHLY INCOME
6.50K

AVERAGE HOURLY RATE
65.89

Total Attrition by Environment Satisfaction

Category	Value
Very dissatisf...	72
Satisfied	62
Very satisfied	60
Dissatisfied	43
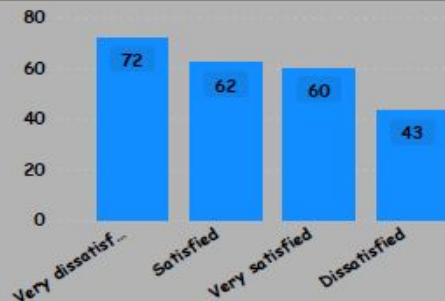
Relationship Satisfaction

Category	Value
Satisfied	71
Very satisfied	64
Very dissatisf...	57
Dissatisfied	45
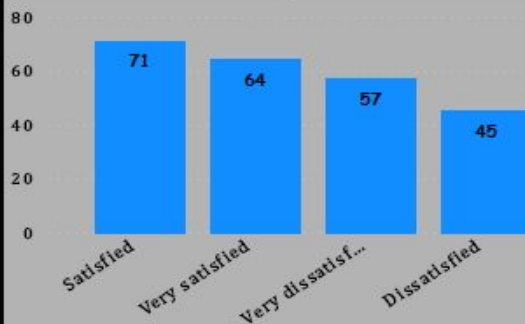
Total Attrition by Job Satisfaction

Category	Value
Satisfied	73
Very dissatisfied	66
Very satisfied	52
Dissatisfied	46
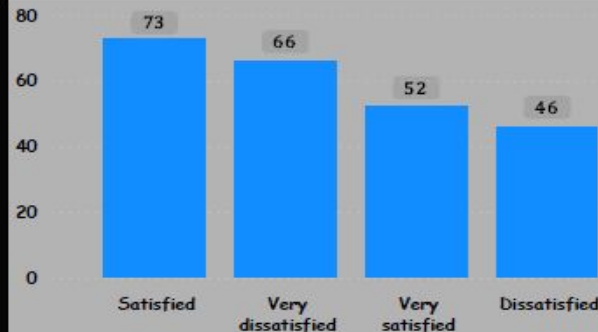
Total Attrition by Job Involvement
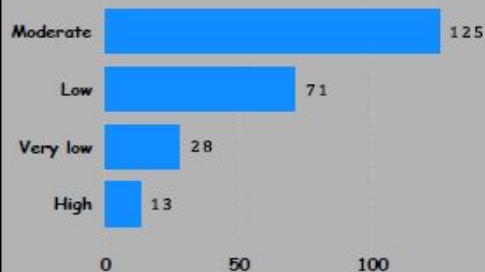
Category	Value
Moderate	125
Low	71
Very low	28
High	13

Total Attrition by Performance Rating

Category	Value
Low	200
High	37

Total Attrition by Work Life Balance

WorkLifeBalance
- Good: 127 (53.59%)
- Average: 58 (24.47%)
- Excellent: 27 (11.39%)
- Bad: 25 (10.55%)
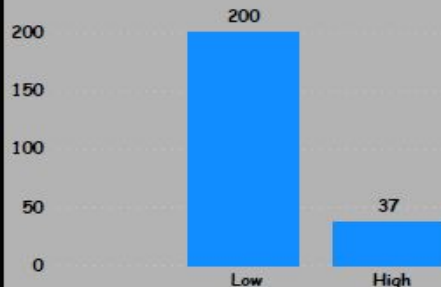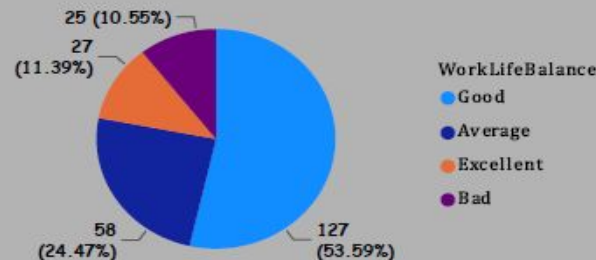
Recommendations

So as to reduce the attrition rate before causing a dent on the company's reputation;

- Offer learning and employee development opportunities to accelerate career growth
- Regularly solicit feedback on employee satisfaction so as to mitigate workplace challenges
- Competitive pay package, timely salary increment and other incentives such as bonuses for personal motivation
- Conduct detailed interviews after an employee has exited to spot attrition cause/trend.