

PROJECT

Employee Attrition Analysis - Human Resource

PROBLEM STATEMENT:

In response to a persistent attrition rate of approximately 15% over recent years, a growing company seeks to address the significant impact this trend has on various aspects of its operations. With a commitment to understanding the underlying reasons for employee departures and mitigating attrition, the company has engaged an HR analytics consultancy. As an HR analyst spearheading this initiative, my task is to leverage available data to develop a comprehensive dashboard. This dashboard aims to empower the organization with actionable insights, facilitating data-driven decision-making strategies to effectively reduce attrition and foster a more sustainable workforce environment.

KPI'S REQUIREMENT:

1. Total Employees:

- ⇒ The total number of employees currently employed, providing an overview of workforce size for resource allocation and capacity planning.
- ⇒ Count unique employee IDs.

2. Total Attrition:

- ⇒ The total number of employees who have left, indicating turnover extent and its impact on operations and morale.
- ⇒ Count employees with attrition status "Yes".

3. Attrition Percentage:

- ⇒ Percentage of employees who have left relative to total, offering a standardized measure for assessing organizational health and retention efforts.
- ⇒ $(\text{Total Attrition} / \text{Total Employees}) * 100$

4. Average Age:

- ⇒ Average age of employees, guiding recruitment strategies and providing insights into generational understanding.
- ⇒ Calculate mean age.

5. Average Monthly Income:

- ⇒ Average monthly income, evaluating compensation structure and competitiveness.
- ⇒ Calculate mean income.

6. Average Monthly Salary:

- ⇒ Average monthly salary (including benefits), assessing remuneration package and aiding in budget planning.
- ⇒ Calculate mean salary.

CHARTS REQUIREMENT:

1. Attrition Count - Job Role:

- ⇒ Count of employees who left by job role, identifying departments for targeted interventions and training.
- ⇒ Count attrition by role.

2. Attrition Count - Gender:

- ⇒ Count of employees who left by gender, guiding diversity initiatives and informing retention strategies.
- ⇒ Count attrition by gender.

3. Attrition Count - Marital Status:

- ⇒ Count of employees who left by marital status, informing work-life balance policies and engagement initiatives.
- ⇒ Count attrition by marital status.

EMPLOYEE ATTRITION SQL QUERIES

KPI'S VALUES:

1.Total Employees:

select **sum**(employeecount) as Total_Employees from **hr_analytics**;

Total_Employees
1470

2.Total Attrition:

select **sum**(`Attrition count`) as Total_Attrition from **hr_analytics**;

Total_Attrition
237

3. Attrition Percentage:

select **cast**(**sum**(`Attrition count`)*100 / **count**('employeecount'))as decimal (10,2)) as Attrition_Percentage from **hr_analytics**;

Attrition_Percentage
16.12

4. Average Age:

select **cast**(**avg**(age)as decimal (10,2)) as Average_Age from **hr_analytics**;

Average_Age
36.92

5. Average Monthly Income:

```
select cast(avg(MonthlyIncome) as decimal(10,2)) as Avg_MonthlyIncome
from hr_analytics;
```

Average_MonthlyIncome
6502.93

6. Average Year at Company:

```
select cast(avg(yearsatcompany) as decimal (10,2)) as Average_YearatCompany
from hr_analytics;
```

Average_YearatCompany
7.01

Total Employment	Attrition Count	Average Attrition	Average Age	Avg Monthly Income	Avg year at company
1470	237.00	16.12%	36.92	6.50K	7.01

EMPLOYEE ATTRITION CHARTS: -

1. Attrition Count - Job Role:

```
select jobrole, cast(sum(`attrition count`) as decimal (10,2)) as Attrition_Count
from hr_analytics
group by jobrole
order by Attrition_Count desc;
```

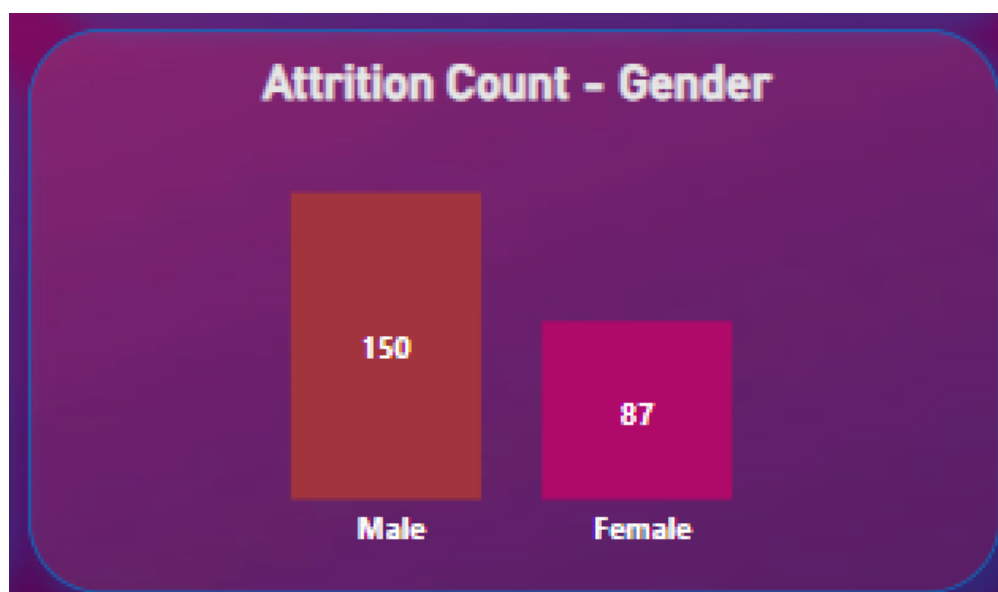
jobrole	Attrition_Co...
Laboratory Technician	62.00
Sales Executive	57.00
Research Scientist	47.00
Sales Representative	33.00
Human Resources	12.00
Manufacturing Director	10.00
Healthcare Representative	9.00
Manager	5.00
Research Director	2.00



2. Attrition Count - Gender:

```
select gender as Gender, sum(`attrition count`) as Attrition_Count  
from hr_analytics  
group by gender  
order by Attrition_Count desc;
```

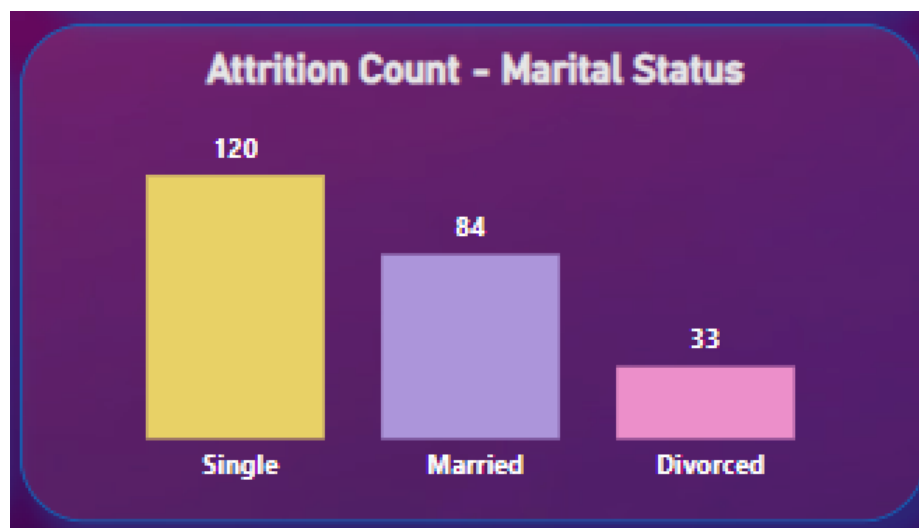
Gender	Attrition_Count
Male	150
Female	87



3. Attrition Count - Marital Status:

```
select MaritalStatus, sum(`attrition count`) as Attrition_Count
from hr_analytics
group by MaritalStatus
order by Attrition_Count desc;
```

MaritalStatus	Attrition_Count
Single	120
Married	84
Divorced	33



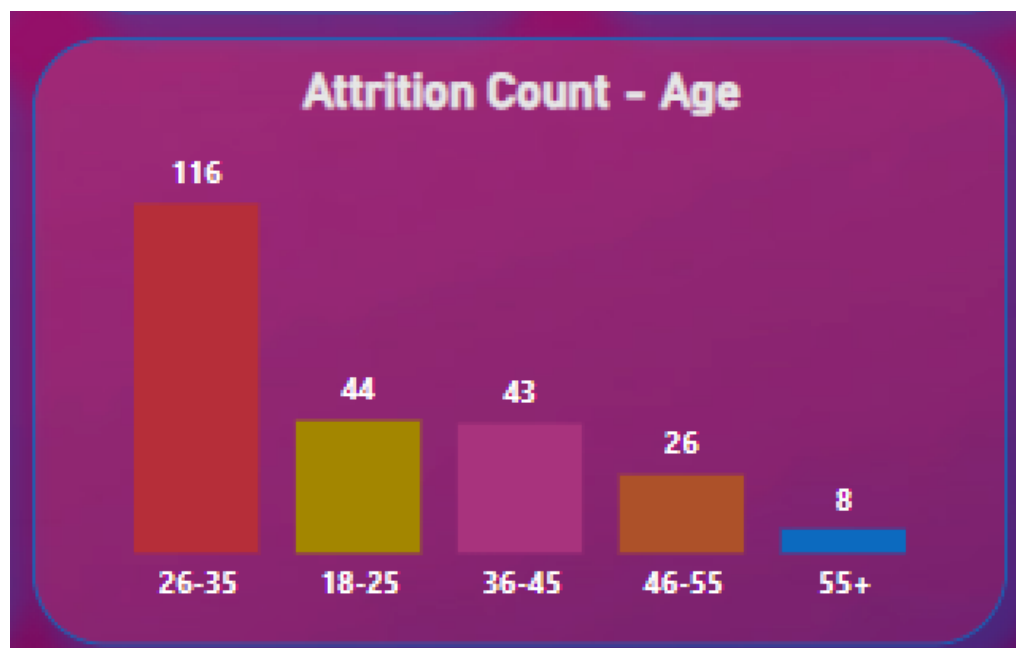
4. Attrition Count – Job Satisfaction:

Attrition Count - Job Satisfaction					
JobRole	1	2	3	4	Total
Healthcare Representative	2	2	1	4	9
Human Resources	5	2	3	2	12
Laboratory Technician	20	8	21	13	62
Manager	1	2	1	1	5
Manufacturing Director	2	2	4	2	10
Research Director	0	1	1	0	2
Research Scientist	13	10	15	9	47
Sales Executive	16	9	18	14	57
Sales Representative	7	10	9	7	33
Total	66	46	73	52	237

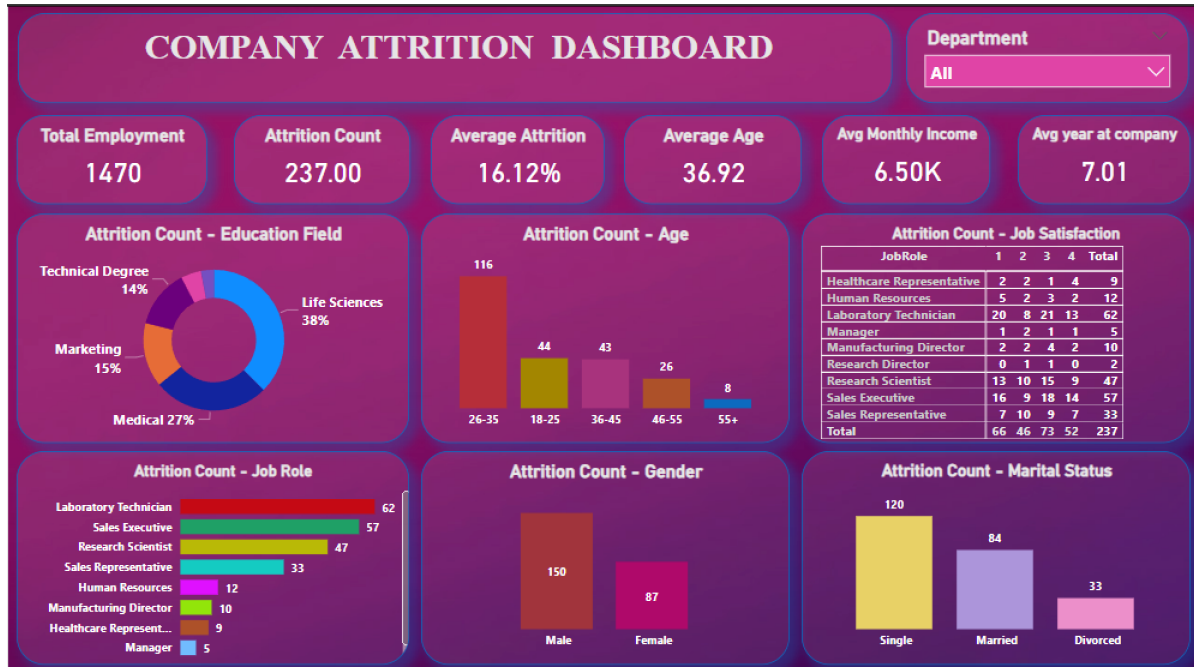
5. Attrition Count – Age:

```
SELECT
  AgeGroup,
  SUM(CASE WHEN attrition = 'yes' THEN 1 ELSE 0 END) AS Attrition_yes
FROM hr_analytics
GROUP BY AgeGroup
ORDER BY Attrition_yes desc;
```

AgeGroup	Attrition_yes
26-35	116
18-25	44
36-45	43
46-55	26
55+	8



DASHBOARD:-



CONCLUSION:-

- ⇒ The project analyzed employee attrition within the organization, comprising a total of 1470 employees, with an attrition rate of 16.12%, resulting in 237 employees leaving the company.
- ⇒ Laboratory Technicians and Sales Executives were the most affected job roles, with 62 and 57 employees leaving, respectively.
- ⇒ Male employees accounted for a higher proportion of attrition compared to females, with 150 males leaving compared to 87 females.
- ⇒ Attrition based on marital status indicated that single employees had the highest attrition count, followed by married and divorced employees.
- ⇒ The average age of employees affected by attrition was 36.92 years, with an average monthly income of \$6503.
- ⇒ On average, employees who left the company had spent approximately 7.01 years at the organization.

Identifying Potential Reasons for Attrition: An Analytical Overview

- ⇒ **Limited growth opportunities:** Employees may perceive limited opportunities for career advancement or professional development within the organization, leading to dissatisfaction and attrition, especially among Laboratory Technicians and Sales Executives who were the most affected job roles.
- ⇒ **Work-life balance issues:** The higher attrition rate among single employees compared to married and divorced employees suggests that work-life balance may be a concern. Single employees may feel overwhelmed by workload or lack of support, leading to dissatisfaction and eventual departure from the company.
- ⇒ **Compensation and benefits:** The average age of employees affected by attrition being relatively young (36.92 years) and the average monthly income being \$6503 suggest that compensation and benefits may not be competitive enough to retain talent. This could contribute to attrition, particularly among employees who have spent an average of 7.01 years at the organization and may seek better opportunities elsewhere.

Strategies to Mitigate Employee Attrition in the Company:-

- ⇒ Implement regular employee engagement initiatives such as team-building activities, recognition programs, and career development opportunities to foster a positive work culture and enhance job satisfaction.
- ⇒ Conduct regular employee feedback surveys to understand their concerns, needs, and areas for improvement, and take proactive measures to address any issues identified.
- ⇒ Provide competitive compensation and benefits packages, including salary increases, performance bonuses, and opportunities for advancement, to recognize and reward employees for their contributions and encourage long-term commitment to the organization.
- ⇒ Offer flexible work arrangements, such as remote work options or flexible scheduling, to accommodate employees' work-life balance needs and improve overall job satisfaction and retention.
