

EMPLOYEE ATTRITION

INTRODUCTION

This data set contains employees details in a company and includes information of employees such as EmployeeID, Age, Attrition, BusinessTravel, DailyRate, Department, DistanceFromHome, Education, EducationField, EmployeeCount, EnvironmentSatisfaction, Gender, HourlyRate, JobInvolvement, JobLevel, JobRole, JobSatisfaction, MaritalStatus, MonthlyIncome, MonthlyRate.

The aim of analyzing this dataset is to gain insights into the workforce dynamics within the organization.

AIM

The aim of the analysis of this dataset is to identify details of every employee. The dataset seems to be related to employee attributes and includes fields like age, department, education, job satisfaction, monthly income, and more.

Analyzing this dataset can help you achieve several key objectives depending on your goals.

The main goal is to find, classify and easily access data of employees which can help the user. This dataset contain important data about '1676' employees.

OBJECTIVE

1. Employee Attrition Analysis:

Identify the factors that contribute most to employee attrition.

2. Employee Satisfaction and Engagement:

Evaluate the overall job satisfaction and engagement levels among employees.

3. Salary Analysis:

Explore the salary distribution across different roles, departments, and education levels.

4. Predictive Modeling:

Predict future employee behavior such as likelihood of leaving the company or getting promoted.

5. Performance Analysis:

Analyze the factors that influence employee performance.

6.Data cleaning:

The database contains many missing values and duplicate rows, by the cleaning process we can ensure the database integrity.

7.SQL Queries:

This database includes SQL queries to execute relevant information by using SELECT, WHERE, DISTINCT, LIMIT, GROUP BY, ORDER BY, and aggregation functions.

DATA OVERVIEW

Columns	Datatype
EmployeeID	int
Age	int
age_category	varchar(100)
Attrition	text
BusinessTravel	text
DailyRate	int
Department	text
DistanceFromHome	int
Education	int
EducationField	text
EmployeeCount	int
EnvironmentSatisfaction	int
Gender	text
HourlyRate	int
JobInvolvement	int
JobLevel	int
JobRole	text
JobSatisfaction	int
MaritalStatus	text
MonthlyIncome	int
MonthlyRate	int

QUESTIONS

1. What is the total number of employees?

```
SELECT COUNT(*) FROM emp_table;
```

2. How many new employees are there?

```
SELECT COUNT(*) FROM emp_table WHERE age = 18;
```

3. What is the maximum daily payment to an employee?

```
SELECT MAX(dailyrate) FROM emp_table;
```

4. What is the minimum daily payment to an employee?

```
SELECT MIN(dailyrate) FROM emp_table;
```

5. What are the details of the employee with the minimum daily payment?

```
SELECT * FROM emp_table WHERE dailyrate = 102;
```

6. What are the details of the employee with the maximum daily payment?

```
SELECT * FROM emp_table WHERE dailyrate = 1499;
```

7. How many employees have the maximum distance from home?

```
SELECT MAX(distancefromhome) FROM emp_table;
```

8. How is the number of employees categorized by business travel?

```
SELECT businesstravel, COUNT(*) AS counts FROM emp_table GROUP  
BY businesstravel ORDER BY counts;
```

9. How are employees categorized by age and gender?

```
SELECT age, gender, COUNT(*) AS counts FROM emp_table GROUP BY  
age, gender ORDER BY counts;
```

10. How are employees categorized by marital status and gender?

```
SELECT maritalstatus, gender, COUNT(*) AS counts FROM emp_table  
GROUP BY maritalstatus, gender ORDER BY counts;
```

11. How are employees categorized by department and gender?

```
SELECT department, gender, COUNT(*) AS counts FROM emp_table  
GROUP BY department, gender ORDER BY counts;
```

12. How are employees categorized by age category and gender?

```
SELECT age_category, gender, COUNT(*) AS count FROM emp_table  
GROUP BY age_category, gender ORDER BY count;
```

13. How are employees categorized by education field and job role?

```
SELECT educationfield, jobrole, COUNT(*) AS count FROM emp_table  
GROUP BY educationfield, jobrole ORDER BY count;
```

14. How are employees categorized by age category and job role?

```
SELECT age_category, jobrole, COUNT(*) AS count FROM emp_table  
GROUP BY age_category, jobrole ORDER BY count;
```

15. How are employees categorized by department and gender?

```
SELECT department, gender, COUNT(*) AS count FROM emp_table  
GROUP BY department, gender ORDER BY count;
```

16. How are employees categorized by attrition and gender?

```
SELECT attrition, gender, COUNT(*) AS counts FROM emp_table GROUP BY attrition, gender ORDER BY counts;
```

17. How are employees categorized by attrition and age category?

```
SELECT attrition, age_category, COUNT(*) AS counts FROM emp_table GROUP BY attrition, age_category ORDER BY counts;
```

18. How are employees categorized by attrition and business travel?

```
SELECT attrition, businesstravel, COUNT(*) AS counts FROM emp_table GROUP BY attrition, businesstravel ORDER BY counts;
```

19. How many employees have left based on their education field?

```
SELECT attrition, educationfield, COUNT(*) AS counts FROM emp_table GROUP BY attrition, educationfield ORDER BY counts;
```

CONCLUSION

1. NUMBER OF MALE AND FEMALE WORKERS

gender	count(*)
Female	678
Male	998

2. AVERAGE AGE OF FEMALE AND MALE WORKERS

gender	avg(age)
Female	37.3274
Male	36.5531

3. AVERAGE DAILYRATE FOR THE PEOPLE WHO LEFT AND STAYED

attrition	avg(dailyrate)
No	808.4997
Yes	741.6131

4. NUMBER OF PEOPLE WITH HIGH,LOW,AVERAGE SALARY

salary_category	count(*)
Average salary	492
Low salary	859
High salary	325

5. NUMBER OF PEOPLE LEFT FROM EACH DEPARTMENT

department num_left

Maternity 98

Cardiology 74

Neurology 27

6. NUMBER OF PEOPLE LEFT IN EACH AGE CATEGORY

Middle aged adults 80

Young adults 109

Older adults 10

7. NUMBER OF MALE AND FEMALE LEFT

Female 86

Male 113

8. COUNT OF MALE AND FEMALE LEFT FROM EACH BUSINESSTRAVELCATEGORY

businesstravel	f_count	m_count
Travel_Frequently	31	22
Travel_Rarely	49	77
Non-Travel	6	10

9. AGE CATEGORISED AND NUMBER OF PEOPLE IN EACH CATEGORY

Middle aged adults 1066

Young adults 448

Older adults 162

10.TOTAL PEOPLE IN EACH CATEGORY

Travel_Rarely 1184

Travel_Frequently 320

Non-Travel 172

11. NUMBER OF ATTRITED EMPLOYEES BASED ON EDUCATION FIELD

Human Resources 6

Other 8

Technical Degree 22

Marketing 28

Medical 51

Life Sciences 84

12. NUMBER EMPLOYEES ARE LESS SATISFIED IN THIS JOB BASED ON MARITAL STATUS

151 Married Employees are not satisfied in this job