# Employee Attrition Analysis - SQL Queries

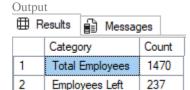
#### **Problem Statement**

Employee attrition is a critical issue for organizations, as losing skilled employees leads to increased hiring costs, reduced productivity, and disrupted workflows. This project aims to analyze patterns and causes of employee attrition using structured SQL queries on HR data. The insights will support HR managers in identifying at-risk employees, improving job satisfaction, and designing retention strategies.

## **SQL Queries**

# 1. How many employees have left the company?

SELECT 'Total Employees' AS Category, COUNT(\*) AS Count FROM Employee\_attrition\_
UNION ALL
SELECT 'Employees Left', COUNT(\*)
FROM Employee\_attrition\_
WHERE Attrition = 1;



## 2. Attrition rate by department

```
SELECT Department,

COUNT(*) AS TotalEmployees,

SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) AS EmployeesLeft,

ROUND(100.0 * SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) / COUNT(*), 2) AS AttritionRate

FROM Employee_attrition_

GROUP BY Department;
```

Output

⊞ R	lesults 🖺 Messages			
	Department	TotalEmployees	EmployeesLeft	Attrition Rate
1	Sales	446	92	20.630000000000
2	Research & Development	961	133	13.840000000000
3	Human Resources	63	12	19.050000000000

## 3. Which job roles have the highest attrition?

SELECT JobRole,

COUNT(\*) AS TotalEmployees,

SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) AS EmployeesLeft,

ROUND(100.0 \* SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) / COUNT(\*), 2) AS

AttritionRate

FROM Employee\_attrition\_

**GROUP BY JobRole** 

ORDER BY AttritionRate DESC;

### Output

⊞ R	esults Messages			
	JobRole	TotalEmployees	EmployeesLeft	Attrition Rate
1	Sales Representative	83	33	39.760000000000
2	Laboratory Technician	259	62	23.940000000000
3	Human Resources	52	12	23.080000000000
4	Sales Executive	326	57	17.480000000000
5	Research Scientist	292	47	16.100000000000
6	Manufacturing Director	145	10	6.900000000000
7	Healthcare Representative	131	9	6.870000000000
8	Manager	102	5	4.900000000000
9	Research Director	80	2	2.500000000000

# 4. Is overtime affecting attrition?

SELECT OverTime,

COUNT(\*) AS TotalEmployees,

SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) AS EmployeesLeft,

ROUND(100.0 \* SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) / COUNT(\*), 2) AS

#### AttritionRate

FROM Employee\_attrition\_

GROUP BY OverTime;

## Output

⊞R	esults 🔒	Messages		
	OverTime	TotalEmployees	EmployeesLeft	Attrition Rate
1	0	1054	110	10.440000000000
2	1	416	127	30.530000000000

## 5. Does monthly income affect attrition? (Income bands)

SELECT 'Low Income (<3000)' AS IncomeBand, COUNT(\*) AS EmployeesLeft FROM Employee\_attrition\_
WHERE MonthlyIncome < 3000 AND Attrition = 1

UNION ALL

SELECT 'Medium Income (3000-6000)', COUNT(\*)

FROM Employee\_attrition\_

WHERE MonthlyIncome BETWEEN 3000 AND 6000 AND Attrition = 1

UNION ALL

SELECT 'High Income (>6000)', COUNT(\*)

FROM Employee\_attrition\_

WHERE MonthlyIncome > 6000 AND Attrition = 1;

#### Output

⊞ R	esults Messages	
	IncomeBand	EmployeesLeft
1	Low Income (<3000)	113
2	Medium Income (3000-6000)	66
3	High Income (>6000)	58

## 6. Attrition by Job Satisfaction level

**SELECT** JobSatisfaction,

COUNT(\*) AS TotalEmployees,

SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) AS EmployeesLeft,

ROUND(100.0 \* SUM(CASE WHEN Attrition = 1 THEN 1 ELSE 0 END) / COUNT(\*), 2) AS

#### AttritionRate

FROM Employee\_attrition\_

GROUP BY JobSatisfaction

**ORDER BY JobSatisfaction**;

#### Output

⊞ R	esults	Messa Messa	ages		
	JobSa	tisfaction	TotalEmployees	EmployeesLeft	AttritionRate
1	1		289	66	22.840000000000
2	2		280	46	16.430000000000
3	3		442	73	16.520000000000
4	4		459	52	11.330000000000

## 7. Attrition by Years at Company bucket

SELECT '0-1 years' AS ExperienceGroup, COUNT(\*) AS EmployeesLeft FROM Employee\_attrition\_

 $\label{eq:WHERE} WHERE\ YearsAtCompany <= 1\ \text{AND}\ Attrition = 1$ 

## **UNION** ALL

SELECT '2-5 years', COUNT(\*)

FROM Employee\_attrition\_

WHERE YearsAtCompany BETWEEN 2 AND 5 AND Attrition = 1

**UNION** ALL

SELECT '6-10 years', COUNT(\*)

FROM Employee\_attrition\_

WHERE YearsAtCompany BETWEEN 6 AND 10 AND Attrition = 1

**UNION** ALL

SELECT '10+ years', COUNT(\*)

FROM Employee\_attrition\_

**WHERE** YearsAtCompany > 10 AND Attrition = 1;

Output

⊞R	esults	Messag	ges	
	Experi	enceGroup	EmployeesLeft	
1	0-1 ye	ars	75	
2	2-5 years		87	
3	6-10 years		55	
4	10+ ye	ears	20	