HR DATA ANALYSIS USING SQL

Overview of the project and the key objectives of HR data analysis using SQL

👥 Team Members

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```sql
-- Average Attrition Rate for All Departments
SELECT
    Department,
    ROUND(SUM(CASE WHEN Attrition='Yes' THEN 1 ELSE 0 END) / COUNT(*) * 100, 2) AS Avg_Attrition_Rat
FROM hr_combined
GROUP BY Department;
```

Result Grid | Filter Rows:

Department	Avg_Attrition_Rate
Software	50.54
Human Resources	49.86
Sales	50.02
Support	50.19
Hardware	49.44
Research & Development	51.21

```sql
-- Average Hourly Rate of Male Research Scientists
SELECT
    JobRole,
    Gender,
    ROUND(AVG(HourlyRate), 2) AS Avg_HourlyRate
FROM hr_combined
WHERE Gender='Male' AND JobRole='Research Scientist'
GROUP BY JobRole, Gender;
```

Result Grid   Filter Rows:

JobRole	Gender	Avg_HourlyRate
Research Scientist	Male	114.45

```sql
-- Attrition Rate vs Monthly Income Stats
SELECT
    monthalyincomegroup,
    COUNT(*) AS Total_Employees,
    SUM(CASE WHEN Attrition='Yes' THEN 1 ELSE 0 END) AS Total_Attrition,
    ROUND(SUM(CASE WHEN Attrition='Yes' THEN 1 ELSE 0 END)/COUNT(*)*100, 2) AS Attrition_Rate
FROM hr_combined
GROUP BY monthalyincomegroup
ORDER BY monthalyincomegroup;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Cont

monthalyincomegroup	Total_Employees	Total_Attrition	Attrition_Rate
0-4999	4004	2016	50.35
10000-14999	4938	2481	50.24
15000-19999	4942	2449	49.55
20000-29999	10090	5060	50.15
30000-39999	10094	5028	49.81
40000-49999	9956	5062	50.84

Result 9

```sql
-- Average Working Years for Each Department
SELECT
    Department,
    ROUND(AVG(TotalWorkingYears), 2) AS Avg_WorkingYears
FROM hr_combined
GROUP BY Department;
```

Result Grid | Filter Rows:

Department	Avg_WorkingYears
Software	20.65
Human Resources	20.45
Sales	20.62
Support	20.48
Hardware	20.48
Research & Development	20.30

esult 10

```sql
-- Job Role vs Work-Life Balance
SELECT
    JobRole,
    ROUND(AVG(WorkLifeBalance), 2) AS Avg_WorkLifeBalance
FROM hr_combined
GROUP BY JobRole
ORDER BY Avg_WorkLifeBalance DESC;
```

Result Grid | Filter Rows: | Export

JobRole	Avg_WorkLifeBalance
Developer	2.51
Healthcare Representative	2.51
Human Resources	2.51
Research Scientist	2.51
Manufacturing Director	2.50
Manager	2.50

Result 11

```sql
-- Attrition Rate vs Years Since Last Promotion
SELECT
    YearsSinceLastPromotionGroup,
    COUNT(*) AS Total_Employees,
    SUM(CASE WHEN Attrition='Yes' THEN 1 ELSE 0 END) AS Total_Attrition,
    ROUND(SUM(CASE WHEN Attrition='Yes' THEN 1 ELSE 0 END)/COUNT(*)*100, 2) AS Attrition_Rate
FROM hr_combined
GROUP BY YearsSinceLastPromotionGroup
ORDER BY YearsSinceLastPromotionGroup;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

YearsSinceLastPromotionGroup	Total_Employees	Total_Attrition	Attrition_Rate
0-2 Years	19556	9800	50.11
11-20 Years	6878	3428	49.84
21-30 Years	1660	846	50.96
3-5 Years	12080	6105	50.54
31-40 Years	222	113	50.90
6-10 Years	9604	4813	50.11

6878

Result 12

Insights & Conclusions

Key takeaways from the SQL analysis:

- Identified patterns in attrition.
- Understood work-life balance variations by role.
- Found relationships between income, promotions, and attrition.