



HR DATA ANALYTICS

Driving Performance & Engagement

PRESENTATION – 2025

Prepared By:

Shamal Vidhate



linkedin link

<https://www.linkedin.com/in/shamal-vidhate>



Introduction :

In today's data-driven world, HR Data Analytics plays a crucial role in improving workforce management and decision-making. By leveraging SQL (Structured Query Language), HR professionals can extract, analyze, and visualize key HR metrics efficiently.

Objective :

- ✓ Understand the Role of SQL in HR Analytics .
- ✓ Explore Key HR Metrics & Use Cases .
- ✓ Learn Basic SQL Queries for HR Insights
- ✓ Enhance Data





Scope of Work

- 1 Workforce & Employee Insights
- 2 Recruitment & Hiring Analysis
- 3 Employee Performance & Productivity
- 4 Compensation & Payroll Analysis
- 5 Employee Engagement & Satisfaction
- 6 Diversity & Inclusion Metrics
- 7 Compliance & HR Policy Monitoring
- 8 Predictive & Strategic HR Analytics



Test Document :

TEST DOCUMENT

Client Name	Online
Report Name	HR Analytics Dashboard
Developer Name	
Tester Name	Shamal Vidhate
Project Manager	
Development Tool	Tableau Desktop & PowerBI Desktop

Test Result:

Total Tests	11
Pass	11
Fail	00
Blocked	00
Not Executed	00

DATA ANALYST PORTFOLIO SQL PROJECT

Import Data in Table Using Query

Employee Count:

```
create table hrdata
(
    emp_no int8 PRIMARY KEY,
    gender varchar(50) NOT NULL,
    marital_status varchar(50),
    age_band varchar(50),
    age int8,
    department varchar(50),
    education varchar(50),
    education_field varchar(50),
    job_role varchar(50),
    business_travel varchar(50),
    employee_count int8,
    attrition varchar(50),
    attrition_label varchar(50),
    job_satisfaction int8,
    active_employee int8
)
select * from hrdata
```

```
select sum(employee_count) from hrdata
```

Output Messages Notifications



sum	numeric	🔒
		1470

Employee Count:

```
20  
21  select sum(employee_count) from hrdata  
22  where education = 'High School'  
23
```

Data Output Messages Notifications



	sum	
	numeric	🔒
1	170	

Employee Count: by condition

```
20  
21  select sum(employee_count) from hrdata  
22  -- where education = 'High School'  
23  where department = 'Sales'  
24  |
```

Data Output Messages Notifications



	sum	employee_count
	numeric	lock
1	446	

```
24  
25  select sum(employee_count) as employee_count  
26  where education_field = 'Medical'  
27  
28  
29
```

Data Output Messages Notifications



	employee_count	lock
	numeric	
1	464	

Attrition Count:

```
28  select * from hrdata  
29  
30  select count(attrition) from hrdata  
31  where attrition = 'Yes'  
32  
33
```

Data Output Messages Notifications



Attrition Count: By Condition

```
29  
30  select count(attrition) from hrdata  
31  where attrition = 'Yes' and department = 'R&D'  
32  
33
```

Data Output Messages Notifications

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	count	bigint
1	133	🔒

Attrition Rate:

```
--  
33  
34 select * from hrdata  
35 select round(((select count(attrition) from hrdata where attrition = 'Yes' and department =  
36 sum (employee_count)) * 100, 2 ) from hrdata  
37 where department = 'Sales'  
38 |  
39  
40
```

Data Output Messages Notifications

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	round
numeric	20.63

Active Employee:

```
38
39 select (select sum(employee_count) from hrdata) - count(attrition) as active_employee from hrdata
40 where attrition='Yes';
41
42
43
44 |
45
46
47
```

Data Output Messages Notifications

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	active_employee	locked
1	1233	

Average Age:

```
43  
44 ✓ select * from hrdata  
45      select round (avg(age),0) as Avg_age from hrdata  
46  
47
```

Data Output Messages Notifications

	avg_age	lock
	numeric	
1	37	

Attrition by Gender:

```
48  
49  select gender, count(attrition) from hrdata  
50  where attrition = 'Yes'  
51  group by gender  
52  order by count(attrition) desc |  
53
```

Data Output Messages Notifications



	gender character varying (50)	count bigint
1	Male	150
2	Female	87

Department wise Attrition:

```
select department, count(attrition), round((cast (count(attrition) as numeric) /  
(select count(attrition) from hrdata where attrition= 'Yes')) * 100, 2) as pct from hrdata  
where attrition='Yes'  
group by department  
order by count(attrition) desc;
```

Data Output Messages Notifications

+          SQL

	department character varying (50)	count bigint	pct numeric
	R&D	133	56.12
	Sales	92	38.82
	HR	12	5.06

No of Employee by Age Group:

Education Field wise Attrition:

```
67  
68 -- Education wise Attrition  
69 select education_field, count(attrition) from hrdata  
70 where attrition = 'Yes'  
71 group by education_field  
72 order by count(attrition) desc  
73
```

Data Output Messages Notifications



	education_field	count
1	Life Sciences	89
2	Medical	63
3	Marketing	35
4	Technical Degree	32
5	Other	11
6	Human Resources	7

Attrition Rate by Gender for different Age Group :

```
--Attrition Rate by Gender for different Age Group
select age_band, gender, count(attrition) as attrition,
round((cast(count(attrition) as numeric) / (select count(attrition) from hrdata where attrition = 'Yes')) * 100) as pct
from hrdata
where attrition = 'Yes'
group by age_band, gender
order by age_band, gender desc;
```

Output Messages Notifications



age_band	gender	attrition	pct
character varying (50)	character varying (50)	bigint	numeric
25 - 34	Male	69	29.11
25 - 34	Female	43	18.14
35 - 44	Male	37	15.61
35 - 44	Female	14	5.91
45 - 54	Male	16	6.75
45 - 54	Female	9	3.80
Over 55	Male	8	3.38
Over 55	Female	3	1.27

Job Satisfaction Rating :

```
86  create extension if not exists tablefunc;
87
88  ---Then run this to get o/p-
89  <SELECT * 
90  FROM crosstab(
91    'SELECT job_role, job_satisfaction, sum(employee_count)
92      FROM hrdata
93      GROUP BY job_role, job_satisfaction
94      ORDER BY job_role, job_satisfaction'
95    ) AS ct(job_role varchar(50), one numeric, two numeric, three numeric, four numeric)
96  ORDER BY job_role;
97
98
```

Data Output Messages Notifications

SQL

	job_role character varying (50) 	one numeric 	two numeric 	three numeric 	four numeric 
1	Healthcare Representative	26	19	43	43
2	Human Resources	10	16	13	13
3	Laboratory Technician	56	48	75	80
4	Manager	21	21	27	33
5	Manufacturing Director	26	32	49	38
6	Research Director	15	16	27	22
7	Research Scientist	54	53	90	95
8	Sales Executive	69	54	91	112



THANK YOU

For Attending Our Presentation

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Contact Us For More Information

📞 9130747955

👤 vidhateshamal2000@gmail.com

🌐 <https://www.linkedin.com/in/shamal-vidhate>

