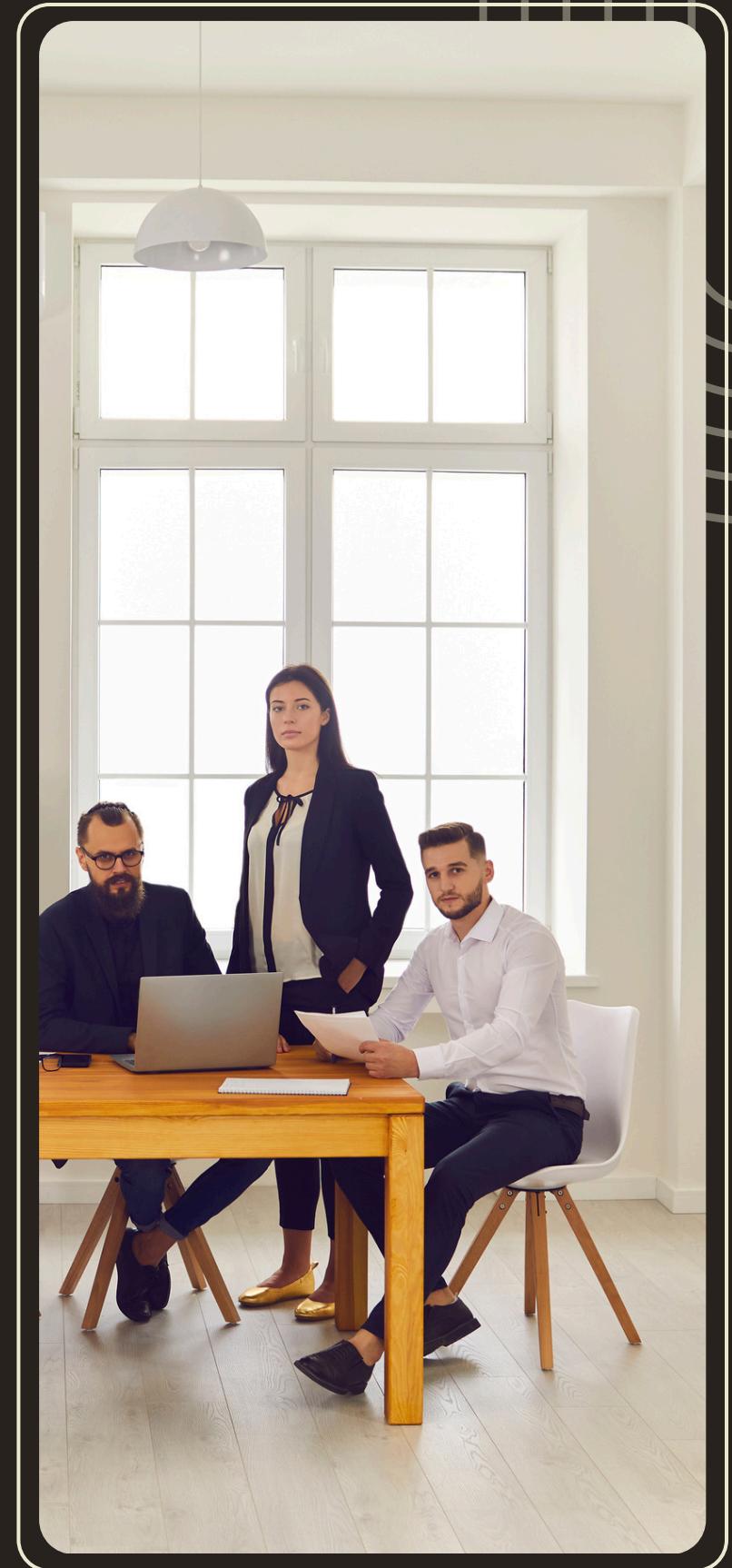


SQL HUMAN RESOURCE ANALYTICAL PROJECTS



INTRODUCTION

In today's competitive business environment, human resources (HR) plays a critical role in organizational success. Companies are increasingly relying on data-driven insights to understand their workforce, improve employee retention, enhance diversity, and optimize recruitment strategies. This HR Analytics project was designed to transform raw HR data into meaningful, actionable insights using SQL for data preparation and Power BI for interactive dashboard visualization.



1. What is the gender breakdown of employee in the company?

```
SELECT * FROM project_hr.`human resources`  
SELECT gender, COUNT(*) as count FROM project_hr.`human resources`  
WHERE termdate IS NULL  
group by gender;
```

gender	count
Male	9328
Female	8455
Non-Conforming	502

2. What is the race breakdown in the company?

```
SELECT race, COUNT(*) as count FROM project_hr.`human resources`  
WHERE termdate IS NULL  
group by race;
```

race	count
Hispanic or Latino	2074
White	5214
Black or African American	2983
Asian	2936
Two or More Races	2989
American Indian or Alaska Native	1098
Native Hawaiian or Other Pacific Islander	991

3. What is the age distribution in the company?

```
SELECT
```

```
CASE
```

```
    WHEN age>=18 AND age<=24 THEN '18-24'  
    WHEN age>=25 AND age<=34 THEN '25-34'  
    WHEN age>=35 AND age<=44 THEN '35-44'  
    WHEN age>=45 AND age<=54 THEN '45-54'  
    WHEN age>=55 AND age<=64 THEN '55-64'  
    ELSE '65+'  
END AS age_group,  
COUNT(*) as count  
FROM project_hr.`human resources`  
WHERE termdate IS NULL  
GROUP BY age_group  
ORDER BY age_group;
```

age_group	count
18-24	1218
25-34	4874
35-44	5069
45-54	4853
55-64	2271

4. How many employees work at HQ vs Remote

```
SELECT location, COUNT(*) as count  
FROM project_hr.`human resources`  
WHERE terminate IS NULL  
GROUP BY location;
```

location	count
Headquarters	13710
Remote	4575

5. What is the average length of employment who have been terminate.

```
SELECT ROUND(AVG(YEAR(termdate) - YEAR(hire_date)), 0) AS length_of_emp  
FROM project_hr.`human resources`  
WHERE termdate IS NOT NULL AND termdate <= CURDATE();
```

length_of_emp
8

6. How does the gender distribution vary across department and job title.

```
SELECT department, jobtitle, gender, COUNT(*) AS count
FROM project_hr.`human resources`
WHERE termdate IS NOT NULL
group by department, jobtitle, gender
order by department, jobtitle, gender;
```

```
SELECT department, gender, COUNT(*) AS count
FROM project_hr.`human resources`
WHERE termdate IS NOT NULL
group by department, gender
order by department, gender;
```

department	jobtitle	gender	count
Accounting	Accountant I	Female	4
	Accountant I	Male	7
	Accountant I	Non-Conforming	3
Accounting	Accountant II	Female	11
	Accountant II	Male	7
	Accountant III	Female	8
Accounting	Accountant III	Male	4

department	gender	count
Accounting	Female	297
Accounting	Male	274
Accounting	Non-Conforming	15
Auditing	Female	4
Auditing	Male	8
Business Development	Female	137
Business Development	Male	131

7. What is the distribution of jobtitle across the company.

```
SELECT jobtitle, COUNT(*) AS count  
FROM project_hr.`human resources`  
WHERE termdate IS NULL  
group by jobtitle;
```

jobtitle	count
Programmer Analyst I	82
Business Analyst	574
Solutions Engineer Manager	172
Service Tech	264
Developer III	63
Quality Engineer	53
Developer I	73
... + - + -	--

8. Which department has a higher turnover/termination rate.

```
SELECT department,
       COUNT(*) as total_count,
       COUNT( CASE
                  WHEN termdate IS NOT NULL AND termdate <= curdate() THEN 1
              END) as terminated_count,
       ROUND((COUNT( CASE
                  WHEN termdate IS NOT NULL AND termdate <= curdate() THEN 1
              END)/COUNT(*))*100,2) AS termination_rate
  FROM project_hr.`human resources`
 GROUP BY department
 ORDER BY termination_rate DESC;
```

department	total_count	terminated_count	termination_rate
Auditing	52	9	17.31
Legal	311	47	15.11
Training	1692	217	12.83
Human Resources	1807	224	12.40
Engineering	6686	823	12.31
Research and Development	1084	133	12.27
Support	954	117	12.26

9. What is the distribution of employees location state.

```
SELECT location_state, COUNT(*) AS count  
FROM project_hr.`human resources`  
WHERE termdate IS NULL  
GROUP BY location_state;
```

```
SELECT location_city, COUNT(*) AS count  
FROM project_hr.`human resources`  
WHERE termdate IS NULL  
GROUP BY location_city;
```

location_state	count
Ohio	14788
Michigan	569
Pennsylvania	930
Wisconsin	321
Illinois	730
Indiana	572
Kentucky	375

location_city	count
Cleveland	13841
Flint	48
Pittsburgh	238
Madison	115
Canton	74
Youngstown	38
Scranton	30

10. How has the company's employee count changed over time based on hire and termination date.

```
SELECT year, hires, terminations, hires - terminations as net_change,  
(terminations/hires)*100 as change_percent  
  
FROM(  
    SELECT year(hire_date) as year,  
    COUNT(*) as hires,  
    SUM(CASE  
        WHEN termdate IS NOT NULL AND termdate <= curdate() THEN 1  
    END) as terminations  
    FROM project_hr.`human resources`  
    GROUP BY year(hire_date)) AS subquery  
    ORDER BY year;
```

year	hires	terminations	net_change	change_percent
2000	220	31	189	14.0909
2001	1122	203	919	18.0927
2002	1067	174	893	16.3074
2003	1142	203	939	17.7758
2004	1135	210	925	18.5022
2005	1097	199	898	18.1404
2006	1118	194	924	17.3524

11. What is the tenure distribution in each department?

```
SELECT department ,round(avg(datediff(termdate, hire_date)/365),0) as avg_tenure  
FROM project_hr.`human resources`  
WHERE termdate IS NOT NULL AND termdate <= curdate()  
GROUP BY department;
```

department	avg_tenure
Engineering	8
Services	8
Human Resources	8
Business Development	8
Sales	9
Support	8
Auditing	8

Thank You

