**HUMAN RESOURCE DASHBOARD ( PROJECT)**

**THE PROJECT SCOPE:** The Human Resources Dashboard Project aims to develop a comprehensive HR dashboard using SQL Server Management Studio (SSMS) and Power BI, utilizing the data from the provided CSV file, "Human Resources.csv

**Project Objectives:** Data Import and Database Setup, Data Cleaning and Transformation, Data Analysis and Querying, Data Visualization with Power BI

* **SQL Server Database:**

DESKTOP-MGHMKQ3\SQLEXPRESS

* **Data Cleaning and Transformation:**

1. **To Check For Duplicates**

SELECT id,first\_name, last\_name, birthdate, gender race, department,jobtitle, location, hire\_date,termdate,location\_city,location\_state,

COUNT(\*) as duplicatee\_count

from [dbo].[Human Resource Assignment]

GROUP BY id, first\_name, last\_name, birthdate, gender, department, jobtitle, location, hire\_date, termdate, location\_city, location\_state

HAVING COUNT(\*) >1;

1. **Check For Missing Values**

SELECT

COUNT(CASE WHEN id IS NULL THEN 1 END) AS id\_missing\_count,

COUNT(CASE WHEN first\_name IS NULL THEN 1 END) AS first\_name\_missing\_count,

COUNT(CASE WHEN last\_name IS NULL THEN 1 END) AS last\_name\_missing\_count,

COUNT(CASE WHEN birthdate IS NULL THEN 1 END) AS birthday\_missing\_count**,**

COUNT(CASE WHEN race IS NULL THEN 1 END) AS race\_missing\_count,

COUNT(CASE WHEN department IS NULL THEN 1 END) AS department\_missing\_count,

COUNT(CASE WHEN jobtitle IS NULL THEN 1 END) AS jobtitle\_missing\_count,

COUNT(CASE WHEN location IS NULL THEN 1 END) AS location\_missing\_count,

COUNT(CASE WHEN hire\_date IS NULL THEN 1 END) AS hire\_date\_missing\_count,

COUNT(CASE WHEN termdate IS NULL THEN 1 END) AS termdate\_missing\_count,

COUNT(CASE WHEN location\_city IS NULL THEN 1 END) AS location\_city\_missing\_count,

COUNT(CASE WHEN location\_state IS NULL THEN 1 END) AS location\_state\_missing\_count

FROM

[dbo].[Human Resource Assignment]

1. **Updating Table**

UPDATE [dbo].[Human Resource Assignment]

SET termdate=

TRY\_CONVERT(DATETIME, termdate,120)

WHERE termdate IS NOT NULL AND termdate!=''

* **DATA ANALYSIS AND QUERYING: using data to answer questions**

**1--What is the gender breakdown of employees in the company?**

SELECT gender, COUNT(\*) AS gender\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY gender;

**2--What is the race/ethnicity breakdown of employees in the company?**

SELECT race, COUNT(\*) AS race\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY race;

**3--What is the age distribution of employees in the company?**

SELECT

FLOOR(DATEDIFF(YEAR, birthdate, GETDATE()) / 10) \* 10 AS age\_range,

COUNT(\*) AS employee\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY FLOOR(DATEDIFF(YEAR, birthdate, GETDATE()) / 10) \* 10

ORDER BY age\_range;

**4--How many employees work at headquarters versus remote locations?**

SELECT

CASE

WHEN location = 'Headquarters' THEN 'Headquarters'

ELSE 'Remote'

END AS work\_location,

COUNT(\*) AS num\_employees

FROM [dbo].[Human Resource Assignment]

GROUP BY location;

-**-5.What is the average length of employment for employees who have been terminated?**

SELECT

AVG(DATEDIFF(MONTH, hire\_date, termdate)) AS avg\_employment\_duration\_months

FROM [dbo].[Human Resource Assignment]

WHERE termdate IS NOT NULL;

**6--How does the gender distribution vary across departments and job title?**

SELECT

department,

jobtitle,

COUNT(CASE WHEN gender = 'Male' THEN 1 END) AS male\_count,

COUNT(CASE WHEN gender = 'Female' THEN 1 END) AS female\_count,

COUNT(CASE WHEN gender = 'Non-Conforming' THEN 1 END) AS others\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY department, jobtitle;

**7--What is the distribution of job titles across the company?**

SELECT jobtitle, COUNT(\*) AS job\_title\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY jobtitle;

**--8. Which department has the highest turnover rate?**

SELECT TOP 1

department,

COUNT(\*) AS total\_employees,

SUM(CASE WHEN termdate IS NOT NULL THEN 1 ELSE 0 END) AS terminated\_employees,

100.0 \* SUM(CASE WHEN termdate IS NOT NULL THEN 1 ELSE 0 END) / COUNT(\*) AS turnover\_rate

FROM [dbo].[Human Resource Assignment]

GROUP BY department

ORDER BY turnover\_rate DESC;

**9--What is the distribution of employees across locations by state?**

SELECT location\_state, COUNT(\*) AS employee\_count

FROM [dbo].[Human Resource Assignment]

GROUP BY location\_state;

**--10 How has the company's employee count changed over time based on hire and term dates?**

SELECT hire\_date AS date\_event, COUNT(\*) AS employee\_count, 'Hired' AS event\_type

FROM [dbo].[Human Resource Assignment]

GROUP BY hire\_date

UNION

SELECT termdate AS date\_event, -COUNT(\*) AS employee\_count, 'Terminated' AS event\_type

FROM [dbo].[Human Resource Assignment]

WHERE termdate IS NOT NULL

GROUP BY termdate

ORDER BY date\_event;

**--11. What is the tenure distribution for each department?**

SELECT

department,

DATEDIFF(MONTH, hire\_date, GETDATE()) AS tenure\_months

FROM[dbo].[Human Resource Assignment] ;

* **DATA VISUALIZATION WITH POWER BI**

Check Power BI File.