HR-Dashboard-MySQL-Power BI

While doing this project I learned how to do data cleaning and analysis in MySQL. I learned how to convert dates, how to use subqueries and filters in dataset to get correct outputs. The query results are saved as csv files to be used later in creating a simple Power BI dashboard.

Project Details

KPI's

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

```
select gender, count(*) as count
from hr where age>=18 and termdate=''
group by gender;
```

	gender	count
▶	Male	8911
	Female	8090
	Non-Conforming	481

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

```
select race, count(*) as count
from hr
where age>=18 and termdate=''
group by race
order by count desc;
```

race	count
White	4987
Two or More Races	2867
Black or African American	2840
Asian	2791
Hispanic or Latino	1994
American Indian or Alaska Native	1051
Native Hawaiian or Other Pacific Islander	952

-- 3. What is the age distribution of employees 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,gender,count(*) count
from hr
where age>=18 and termdate=''
group by age_group,gender
order by age_group,gender;
```

	age_group	gender	count
▶	18-24	Female	896
	18-24	Male	1031
	18-24	Non-Conforming	50
	25-34	Female	2368
	25-34	Male	2487
	25-34	Non-Conforming	135
	35-44	Female	2223
	35-44	Male	2623
	35-44	Non-Conforming	139
	45-54	Female	2184
	45-54	Male	2353
	45-54	Non-Conforming	134
	55-64	Female	419
	55-64	Male	417
	55-64	Non-Conforming	23

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

```
select location,count(*) as count
from hr
where age>=18 and termdate=''
group by location;
```

	location	count
▶	Headquarters	13107
	Remote	4375

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

```
SELECT
round(avg(datediff(termdate,hire_date))/365,0) AS avg_length_employment
from hr
where termdate<=curdate() and termdate<>'' and age>=18;
```

	avg_length_employment
▶	8

-- 6. How does the gender distribution vary across departments and job titles?

```
select department,gender,count(*) as count
from hr
where age>=18 and termdate=''
group by department,gender
order by department;
```

department	gender	count
Accounting	Female	1175
Accounting	Male	1375
Accounting	Non-Conforming	76
Auditing	Female	19
Auditing	Male	19
Business Development	Female	593
Business Development	Male	672
Business Development	Non-Conforming	42
Engineering	Female	2442
Engineering	Male	2671
Engineering	Non-Conforming	146
Human Resources	Female	672

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

```
select jobtitle,count(*) as count
from hr
where age>=18 and termdate=''
group by jobtitle
order by jobtitle desc;
```

jobtitle	count
Web Developer IV	58
Web Developer III	53
Web Developer II	66
Web Developer I	79
Web Designer IV	5
Web Designer III	10
Web Designer II	3
Web Designer I	27
VP Sales	5
VP Quality Control	34
VP Product Mana...	31

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

```
select department,total_count,terminated_count,terminated_count/total_count as termination_rate
from(
select department,
count(* )as total_count,
sum(case when termdate <>'' and termdate<=curdate() then 1 else 0 end) as terminated_count
from hr
where age>=18
group by department) as subquery
order by termination_rate desc;
```

department	total_count	terminated_count	termination_rate
Auditing	50	8	0.1600
Legal	299	39	0.1304
Training	1622	189	0.1165
Research and Development	1032	116	0.1124
Accounting	3192	351	0.1100
Human Resources	1727	190	0.1100
Engineering	6387	693	0.1085
Sales	1745	189	0.1083
Services	1618	172	0.1063
Product Management	623	66	0.1059
Support	903	92	0.1019

-- 9. What is the distribution of employees across locations by city and state?

```
select location_state,count(*) as count
from hr
where age>=18 and termdate=''
group by location_state
order by count desc;
```

location_state	count
Ohio	14144
Pennsylvania	892
Illinois	698
Michigan	550
Indiana	545
Kentucky	347
Wisconsin	306

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

```
select year,hires,terminations,
hires-terminations as net_change,
round((hires-terminations)/hires*100,2) as net_change_percent
from(
select year(hire_date) as year,
count(*)as hires,
sum(case when termdate<>'' and termdate<=curdate() then 1 else 0 end) as terminations
from hr
where age>=18
group by year(hire_date)) as subquery
order by year asc;
```

year	hires	terminations	net_change	net_change_percent
2000	211	26	185	87.68
2001	1082	197	885	81.79
2002	1012	161	851	84.09
2003	1088	187	901	82.81
2004	1087	190	897	82.52
2005	1038	166	872	84.01
2006	1069	169	900	84.19
2007	1058	138	920	86.96
2008	1061	136	925	87.18
2009	1094	141	953	87.11
2010	1050	119	931	88.67

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

```
select department,round(avg(datediff(termdate,hire_date)/365),0) as avg_tenure
from hr
where termdate<=curdate() and termdate<>'' and age>=18
group by department;
```

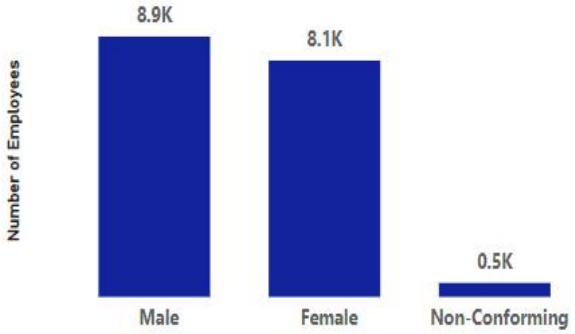
department	avg_tenure
Engineering	8
Services	8
Human Resources	7
Business Development	7
Sales	8
Auditing	8
Training	7
Accounting	8
Research and Development	8
Product Management	6
Support	7

HR EMPLOYEE DISTRIBUTION REPORT

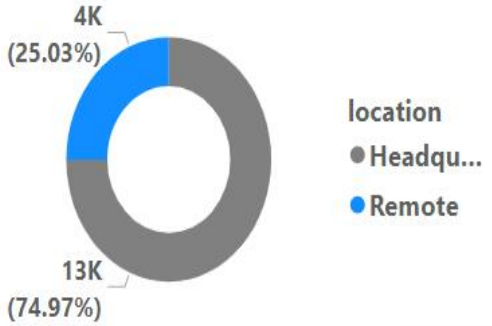
Average Length Of Employment(Years))

8

Gender Distribution

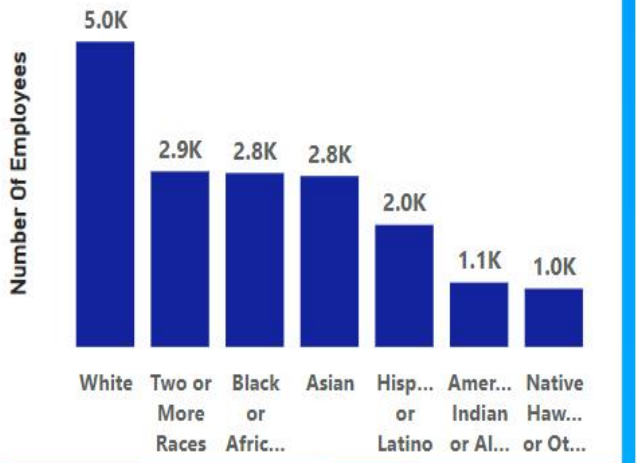


Headquarter vs Remote

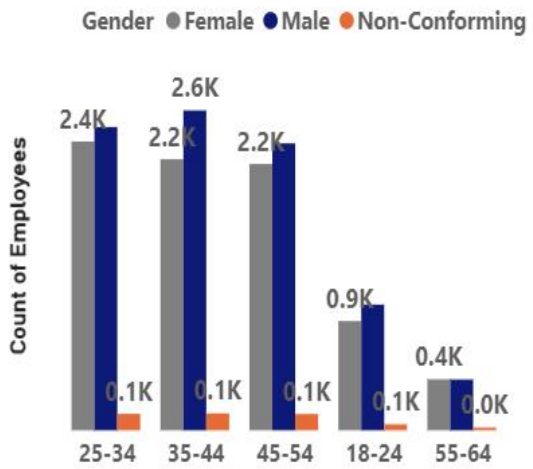


Change in Employee Number(2000-2020)

Race Distribution



Age Distribution by Gender



Employee By State