HR Analytics-Absenteeism at Work

Problem Statement:

HR Request to Data Analysis Team

- To provide a list of healthy individuals with low absenteeism for our healthy bonus program. The program's total budget is $1000 USD.
- Please calculate the wage increase or annual compensation for non-smokers, using an insurance budget of $983,221 for all non-smokers.
- Lastly, create a dashboard for HR to understand absenteeism at work, based on the approved wireframe.

Data Source :-

GitHub - Gaelim/work_incentive_program

Contribute to Gaelim/work_incentive_program development by creating an account on GitHub.

https://github.com/Gaelim/work_incentive_program/tree/main

Gaelim/
work_incentive_program

1 Contributor 0 Issues 1 Star 0 Forks

Approach:-

1. Data Analysis Task and Problem Statement
2. Connecting to Microsoft SQL Server and Database Creation
3. Uploading Data to the Database
4. Writing SQL Join Queries
5. SQL Query with Filters for Healthy Workers
6. Compensation Calculation Analysis with SQL

7. Optimize SQL Query and CASE Statements
8. Connecting Tableau to Database
9. Dashboard Development and Wireframe
10. Final Dashboard Design

Tool used-

SQL Server Management Studio, Excel, and Tableau Desktop.

Joining tables through queries.

```
select * from Absenteeism_at_work ab
left join compensation co
On
ab.ID = co.ID
left join Reasons re
On
ab.Reason for absence = re.Number;
```

Insights👎

Q1. To provide a list of healthy individuals with low absenteeism for our healthy bonus program. The program's total budget is $1000 USD.

Solution:-

Based on the SQL query, we have determined that there are 111 employers who meet multiple criteria and are considered to be healthy with low absenteeism. We can offer them bonus incentives from our fixed budget to show our appreciation.

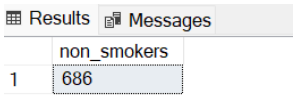
```
-- find the healthiest
select * from Absenteeism_at_work
where Social_drinker = 0 and Social_smoker = 0
and Body_mass_index < 25 and
Absenteeism_time_in_hours < (select avg(Absenteeism_time_in_hours)from Absenteeism_at_work)
```

Q2. Please calculate the wage increase or annual compensation for non-smokers, using an insurance budget of $983,221 for all non-smokers.

Solution:-

The compensation rate increase for non-smokers by 0.68 increase per hour which means
$1,414.4/year.

```
select count(*) as non_smokers from Absenteeism_at_work
where Social_smoker =0
```



To calculate the wage increase or annual compensation for non-smokers, using an insurance budget of $983,221 for all non-smokers, we can use the following steps:

5days * 8hr = 40hr/day. it means in 52 week(1 yr) 40 hr *52 = 2080 hr

1. Calculate the total number of hours worked by all employees:

   2080hr *686 = 1,426,880 hrs

2. Divide the total number of hours worked by the insurance budget to get the hourly compensation rate increase:

   1,426,880 \ $983,221 = 0.68$/hr

3. Finally, multiply the hourly compensation rate increase by the number of hours worked per year (2080) to get the annual compensation increase:

   0.68 $ * 2080 hrs = $1,414.4/yr

Therefore, the annual compensation increase for non-smokers is $1,414.4/yr

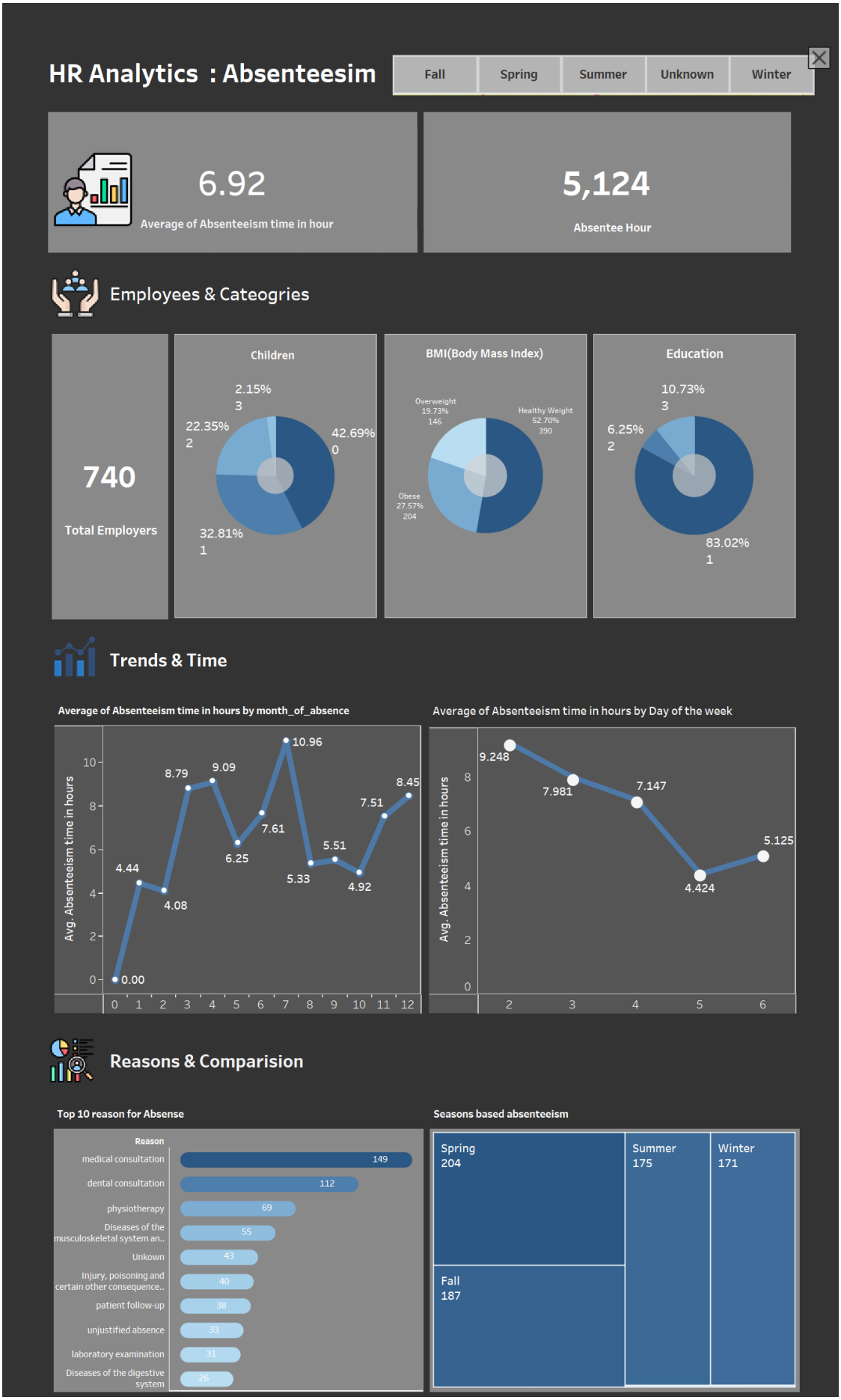
Query Optimization with CASE Statement

```
select
ab.ID,
```

```
re.Reason,
Body_mass_index,
CASE
When Body_mass_index <18.5 then 'Underweight'
When Body_mass_index between 18.5 and 25 then 'Healthy Weight'
When Body_mass_index between 25 and 30 then 'Overweight'
When Body_mass_index > 30 then 'Obese'
Else 'Unknown'
END as BMI_category,
CASE
WHEN Month_of_absence in (12,1,2) then 'Winter'
WHEN Month_of_absence in (3,4,5) then 'Spring'
WHEN Month_of_absence in (6,7,8) then 'Summer'
WHEN Month_of_absence in (9,10,11) then 'Fall'
else 'Unknown'
end as Season_names,
Seasons,
Month_of_absence,
Day_of_the_week,
Transportation_expense,
Education,
Son,
Social_drinker,
Social_smoker,
Pet,
Disciplinary_failure,
Age,
Work_load_Average_day,
Absenteeism_time_in_hours

from Absenteeism_at_work ab
left join compensation co
On
ab.ID = co.ID
left join Reasons re
On
ab.Reason_for_absence = re.Number;
```

Dashboard


HR Analytics : Absenteesim
Fall
Spring
Summer
Unknown
Winter
6.92
Average of Absenteeism time in hour
5,124
Absentee Hour
Employees & Cateogries
740
Total Employers
Children
2.15%
3
22.35%
2
42.69%
0
32.81%
1
BMI(Body Mass Index)
Overweight
19.73%
146
Healthy Weight
52.70%
390
Obese
27.57%
204
Education
10.73%
3
6.25%
2
83.02%
1
Trends & Time
Average of Absenteeism time in hours by month_of_absence
Avg. Absenteeism time in hours
0.00
4.44
4.08
8.79
9.09
6.25
7.61
10.96
5.33
5.51
4.92
7.51
8.45
Average of Absenteeism time in hours by Day of the week
9.248
7.981
7.147
4.424
5.125
Reasons & Comparision
Top 10 reason for Absense
Reason
medical consultation
149
dental consultation
112
physiotherapy
69
Diseases of the musculoskeletal system an..
55
Unkown
43
Injury, poisoning and certain other consequence..
40
patient follow-up
38
unjustified absence
33
laboratory examination
31
Diseases of the digestive system
26
Seasons based absenteeism
Spring
204
Summer
175
Winter
171
Fall
187

Dashboard Link:-

HR Analytics(absenteeism)

https://public.tableau.com/views/HRAnalyticsabsenteeism/Dashboard1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link