

# Work-Life Balance and Engagement Analysis

## Problem Statement:

Acme Corporation, a leading tech company, is facing a significant challenge with employee turnover. The HR department is concerned about the increasing rate of attrition, as it negatively impacts team dynamics, project continuity, and overall company morale. To address this issue, Acme Corporation wants to leverage data analytics and machine learning to understand the factors influencing employee turnover and predict which employees are likely to leave in the near future.

## Data processing and data cleaning:

For data processing and data cleaning I used python library. With the help of python pandas ,I started removing the irrelevant data columns and then checked for any null or missing values and removed the rows that are null and missing values, the rows that are being removed are standard hours, and over 18.

## Dashboard building:

I used Power BI to build the dashboard the steps that I have used are discussed below.

1. Step1- I have imported the cleaned data to Power BI, Later I used power query which helped me in adding new columns and measurement that helped for data visualizations and presentation of work life balance here are the columns that I have change and measured:
  - Over Time: I have changed the over time column yes or No to Overtime Employee in numerical that is 1 if yes 0 if it is no
  - Measurement that I have made are total employee count, Standard hours employee percentage, over time employees, over time employee percentage, normal working employees.

```
Totalemployees = SUM('cleaned_HR_Employee_work life managment (1)'[EmployeeCount])  
Overtime employees = SUM('cleaned_HR_Employee_work life managment (1)'[Over time employee])  
NormalWorkingEmployees = SUM('cleaned_HR_Employee_work life managment (1)'[EmployeeCount]) - SUM('cleaned_HR_Employee_work life managment (1)'[Over time employee])  
OvertimeEmployeePercentage = DIVIDE([Overtime employees], [TotalEmployees])  
Standardhouremployeepercentage = DIVIDE([NormalWorkingEmployees], [TotalEmployees])
```

After adding the columns and Measurements. I have started building data visualisations using the data that is being transformed and applied to know the key factors that are effecting work life balance and engagement in work

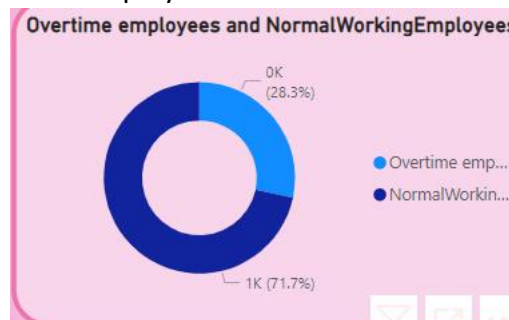
## Key Performance Indicators:

1. Average Work-Life Balance Rating
2. Average Job Involvement
3. Average Relationship Satisfaction
4. Distribution of Overtime Work

## Power BI Data visualizations:

Data visualizations along with the above KPIs:

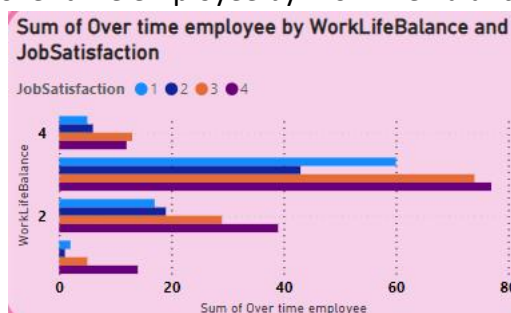
1. Distribution of over time employees:



### Interpretation:

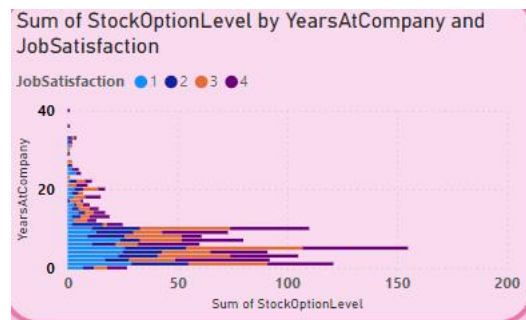
Through this chart we can analyse and interpret that, there are less percentage of people work over time{28.3%} than compered to normal working people{ 71.7%} .

2. Percentage count of over time employee by Work life Balance:



**Interpretation:** The chart indicates that employees with lower work-life balance levels tend to work more overtime hours, particularly those with higher job satisfaction. Conversely, employees with a higher work-life balance work significantly less overtime, regardless of their job satisfaction level.

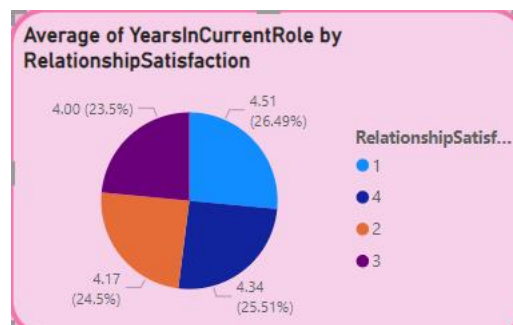
### 3. Sum of stock option level by years at company and job satisfaction



#### Interpretation:

through this graph we can determine that company is providing most of the stock level option to the employees who are working less then 20years or between 10 to 15 year that is approximately up to 150 to 155 stock option we can also come to a conclusion that job satisfaction of these employees are high, the stock level option is not provided to the people who are working for more than 20 to 40 years and can say that job satisfaction is also considered to be low for this employees . through this we can clearly come to the conclusion that stock option plays the crucial role in job satisfaction level.

### 4. Average of years in current role by relationship satisfaction and environmental satisfaction



#### Interpretation:

The above chart indicates about average years in current role and relationship satisfaction, if the relationship satisfaction is lowest 1, low 2, average 3, high 4 . {26.49%} are not satisfied by their years in current role and also their relationship satisfaction is also lowest , Almost {23.5%} people are satisfied moderately in their years in current role and their relationship satisfaction is also average {25.51%} of the employees are highly satisfied and their relationship satisfaction is high.

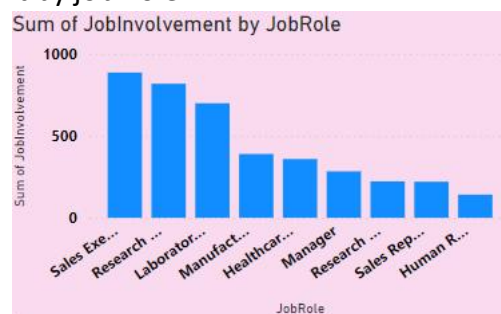
## 5. Sum of years since last promotion by job involvement\



### Interpretation:

The chart suggests that there is a notable difference in the count of years since the last promotion based on job involvement levels, with moderate levels showing the longest time since promotion. This pattern indicates potential areas for organizational improvement in supporting employee growth and ensuring that promotional opportunities are equitable and motivating across different levels of job involvement.

## 6. Sum of job Involvement by job Role



**Interpretation :** The "Sum of Job Involvement by Job Role" chart represents the total levels of job involvement for employees within different job roles. By analysing the sum of job involvement scores, organizations can identify areas where employee engagement needs to be boosted and take targeted actions to improve overall workforce satisfaction.

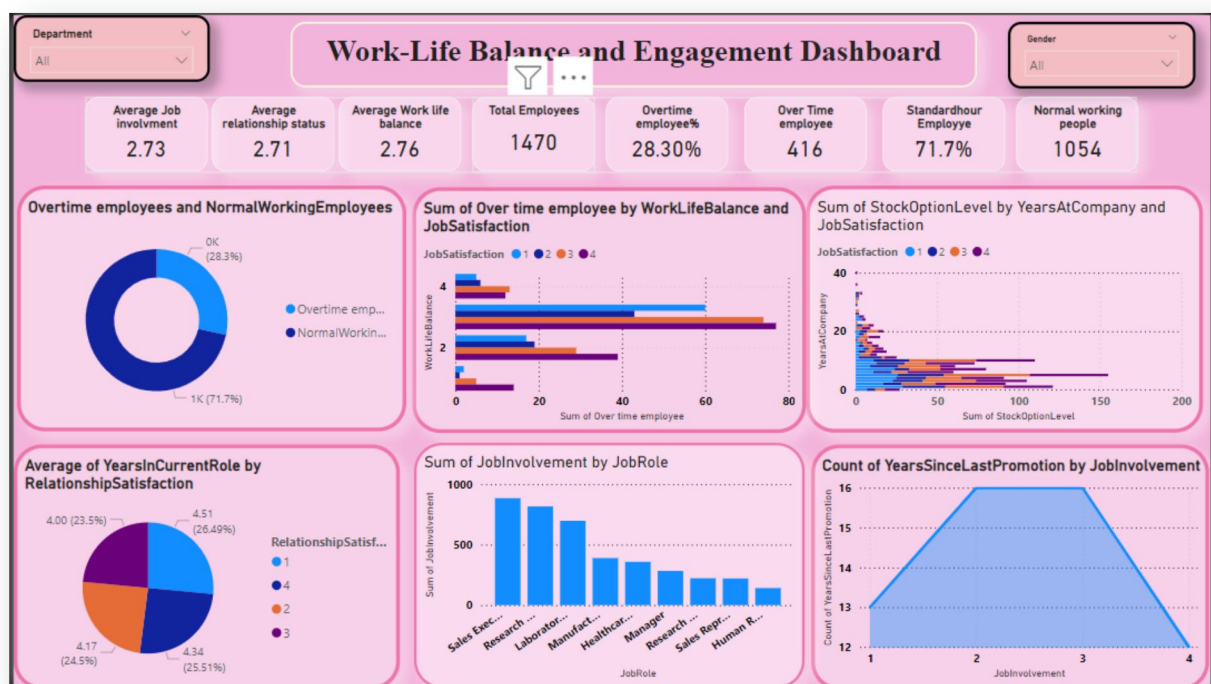
The below interpretation give clarity about which department is highly engaged in work and which is lowest

- **High Engagement:** Sales Executives, Research Scientists, and Laboratory Technicians.
- **Moderate Engagement:** Manufacturing Directors, Healthcare Representatives.
- **Lower Engagement:** Managers, Research Directors, Sales Representatives.
- **Lowest Engagement:** Human Resources.

## Conclusion:

- 1) After adding the above visualizations for better understanding of the work life balance and engagement when compared with other factors/Columns/and attributes
- 2) I have also added slicers which helps to customize the visualizations those are as follow
  - A)Department
  - B)Gender

## Dashboard:



Here are the KPI's that is being determined :



- Average work life balance : 2.76percent
- over time employees are: 416
- total employees are :1470
- Overtime employees percentage :28.30%

- Over time employee count: 416
- Standard hours employee: 71.7%
- Normal working people :1054

## Policies and Initiatives

1. **Encouraging Regular Breaks:**
  - **Mandatory Breaks:** Ensure employees take regular breaks to avoid burnout.
  - **Lunch Breaks:** Encourage employees to take full lunch breaks away from their desks.
2. **Overtime Management:**
  - **Overtime Monitoring:** Track overtime hours and ensure they do not exceed healthy limits.
  - **Compensation:** Provide additional compensation or time off in lieu for overtime work.
3. **Employee Assistance Programs (EAPs):**
  - **Counselling Services:** Offer counselling and mental health support services.
  - **Work-Life Balance Workshops:** Provide workshops on stress management, time management, and other work-life balance topics.
4. **Career Development Opportunities:**
  - **Training Programs:** Offer training and development programs to enhance job involvement and career growth.
  - **Mentorship:** Implement mentorship programs to support career development and relationship building.
5. **Recognition and Reward Programs:**
  - **Employee Recognition:** Regularly recognize and reward employees for their contributions.
  - **Team Activities:** Organize team-building activities to foster better workplace relationships.
6. **Health and Wellness Programs:**
  - **Fitness Programs:** Provide access to fitness programs or gym memberships.
  - **Healthy Eating:** Offer healthy food options at the workplace.
7. **Open Communication Channels:**
  - **Feedback Mechanisms:** Create channels for employees to provide feedback and voice concerns.
  - **Regular Meetings:** Hold regular meetings to discuss work-life balance and engagement issues.
8. **Assess Current State:**
  - Conduct surveys and focus groups to gather employee feedback on work-life balance and engagement.
9. **Develop a Plan:**
  - Create a comprehensive plan that includes the above policies and initiatives tailored to your organization's needs.
10. **Communicate the Plan:**
  - Clearly communicate the new policies and initiatives to all employees.
11. **Monitor and Evaluate:**

- Continuously monitor the effectiveness of the policies and make adjustments based on feedback and performance metrics.

By implementing these policies and initiatives, you can create a more supportive and engaging work environment that promotes employee well-being and satisfaction.