Work-Life Balance and Engagement Analysis

1. Data Loading and Preparation

a. Import Dataset

- • Open **Power BI Desktop**.
- • Go to **Home** > **Get Data** > **Excel** (or appropriate data source) and import your dataset.

b. Data Cleaning

- • Review the dataset for any missing or inconsistent data.

2. Data Transformation

a. Check for datatypes of all the columns

b. Create Calculated Columns

- **Target attrition column :-** To convert target column “Attrition” from ENUM type to Binary Boolean type.

```
target_att = IF('hrdata'[Attrition]="Yes",1,0)
```

- **Age Range**: Convert different Employee age into a category in which grouping can be done for particular age section of employee

```
age_range =
        SWITCH (TRUE(),
        hrdata[Age]>10 && hrdata[Age] <=30, "<30",
        hrdata[Age]>30 && hrdata[Age] <=40, "30-40",
        hrdata[Age]>40 && hrdata[Age] <=50,"40-50",
        hrdata[Age]>50,"above 50")
```

- **Income_slab:** Grouping employee salary to different range.

```
income_slab =
SWITCH (TRUE(),
hrdata[MonthlyIncome]>0 && hrdata[MonthlyIncome]<5000, "0-5000",
hrdata[MonthlyIncome]>=5000 && hrdata[MonthlyIncome]<10000, "5000-10000",
hrdata[MonthlyIncome]>=10000 && hrdata[MonthlyIncome]<15000, "10000-15000",
hrdata[MonthlyIncome]>=15000 && hrdata[MonthlyIncome]<20000, "15000-20000")
```

3. Data Modeling

a. Create Measures (for KPIs)

- Active Employees :- No. of employees working currently

```
m_active_emp = count(hrdata[EmployeeNumber]) - sum(hrdata[target_att])
```

- Attrition Rate :- Percentage of attrition w.r.t total employees

```
m_attrition_rate = DIVIDE(SUM('hrdata'[target_att]), COUNT('hrdata'[EmployeeNumber]),"")
```

4. Dashboard Design

KPIs used for visualization

a. Average Work-Life Balance

- Drag a **Card** onto the report canvas.
- Set the **Value** to the **WorkLifeBalance**
- Set the aggregation type to be **average**

b. Average Engagement in Job

- Drag a **Card** onto the report canvas.
- Set the **Value** to the **JobInvolvement**
- Set the aggregation type to be **average**

c. Average Relationship Satisfaction

- Drag a **Card** onto the report canvas.
- Set the **Value** to the **Relationship Satisfaction**
- Set the aggregation type to be **average**

d. Count of Overtime

- Drag a **Card** onto the report canvas.
- Set the **Value** to the **Count Overtime**
- Filter the visual with **Overtime** value **"Yes"**

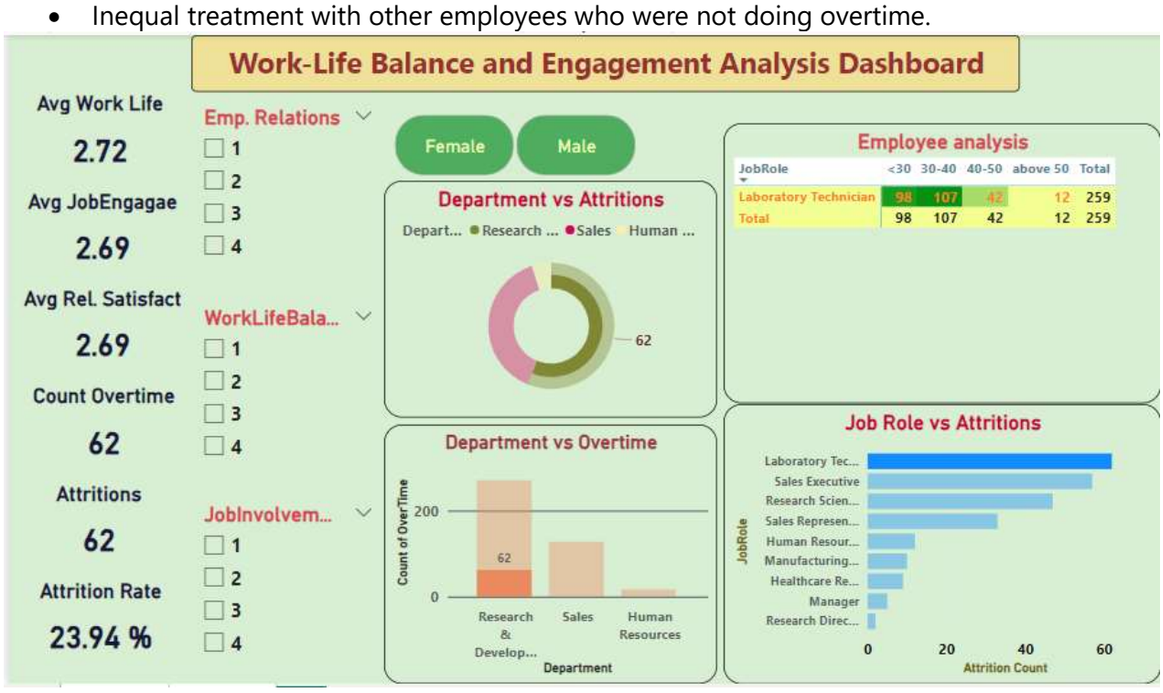
OBSERVATIONS

From the below dashboard, it is well understood that all the employee with **Laboratory Technician** Job Role who were doing **Overtime** has left the company i.e**. attrition count is same as overtime count.** Similarly the average of work life balance, job involvement and relationship satisfaction is also below 3.

Possible reasons for below scenario may occur because :-

- Health condition of Employee would be impacting due to overtime

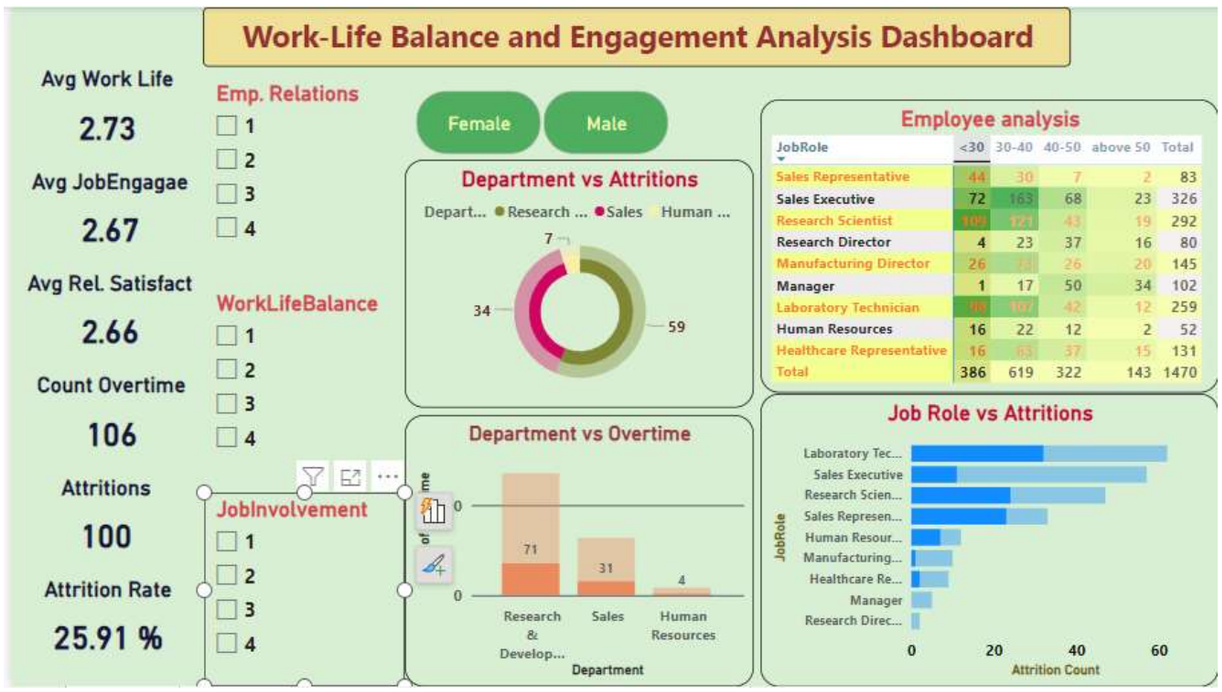
- Family pressure as not able to invest much time with family
- Inequal treatment with other employees who were not doing overtime.



Below dashboard shows for the **employees who are below age of 30**. **Work life balance and Job engagement value is below 3** which denotes that in early age employee suffers from **poor work life balance**. The **attrition rate is also high** and employee is also suffering from Overtime.

Possible reasons for below scenario may occur because :-

- **Career Development:** Younger employees often seek rapid career growth and development opportunities. If they perceive limited advancement or feel stagnant in their roles, they may leave in search of more promising career paths.
- **Work-Life Balance:** Younger employees might prioritize work-life balance and flexibility more than older generations. If a job demands long hours or lacks flexibility, they may be more inclined to leave for positions that better align with their lifestyle preferences.
- **Compensation and Benefits:** Competitive salaries, benefits, and perks are often crucial for younger employees. If they feel that their compensation does not reflect their skills or industry standards, they may be tempted to explore other opportunities.
- **Job Security:** This age group might experience anxiety about job stability, especially in industries with high turnover or economic volatility. If they feel insecure about their job prospects, they may proactively seek more stable opportunities.
- **Educational and Professional Growth:** Younger employees often look for positions that offer training, mentorship, and skill development. If they perceive a lack of opportunities for learning and growth, they may leave for roles that promise better development prospects.



The attrition rate for employee is more than male employee under age of 30 is more than male. Reasons could be:-

- **Workplace Harassment or Discrimination**: Experiences of workplace harassment or discrimination can lead to higher attrition rates among women. If female employees face a hostile or unsupportive work environment, they may leave for a more positive and respectful workplace.
- **Family and Caregiving Responsibilities**: Younger women may face greater expectations or responsibilities related to family and caregiving. If their jobs do not offer adequate support or flexibility for these roles, they might leave to find positions that better accommodate their personal needs.

DTI Range Filter
Date Filter
Loan filter
Loan purpose filter

- • Create a **Scatter Plot** or **Grouped Bar Chart**.
- • Use **LTV** and **PrepaymentRate/DelinquencyRate** for analysis.

f. Loan Purpose Filter

- • Use a **Stacked Bar Chart** or **Grouped Bar Chart**.
- • Compare **Loan Purpose** with **PrepaymentRate** and **DelinquencyRate**.

5. Final Touches

a. Formatting

- • Apply consistent colors, fonts, and styles across visuals.
- • Add titles, axis labels, and legends to enhance readability.

b. Tooltips and Interactivity

- • Add tooltips to provide additional information on hover.
- • Ensure slicers and filters interact with all related visuals for a dynamic dashboard.

c. Testing

- • Test the dashboard with different filter selections to ensure accurate data representation.

Conclusion for Prepayment Risk Analysis

The Prepayment Risk Analysis dashboard provides valuable insights into the factors affecting loan prepayment rates within the dataset. Through this analysis, several key findings and implications emerge:

- 1. **Prepayment Behavior**: • The average prepayment rate across the dataset indicates that a significant portion of loans is being prepaid before maturity. This trend can impact the profitability and cash flow projections for lenders.
- 2. **Credit Score Influence**: • The credit score range has a discernible impact on prepayment rates. Borrowers with higher credit scores tend to have different prepayment behaviors compared to those with lower scores. This underscores the importance of creditworthiness in loan repayment dynamics.
- 3. **Loan Type Variation**: • The type of loan (e.g., fixed-rate, adjustable-rate) plays a role in prepayment behaviors. Understanding the characteristics and terms of each loan type can help lenders tailor their strategies to manage prepayment risks effectively.
- 4. **DTI Ratio Insights**: • The Debt-to-Income (DTI) ratio provides insights into borrowers' financial health and their capacity to manage debt. Loans with higher DTI ratios may exhibit different prepayment behaviors, warranting further exploration and segmentation in future analyses.
- 5. **Loan Purpose Considerations**: • The purpose of the loan (e.g., purchase, refinance) can influence prepayment rates. Borrowers' motivations and financial situations vary based on the loan purpose, which can impact their likelihood to prepay.
- 6. **Operational Implications**: • Lenders and financial institutions can use these insights to refine their loan origination, servicing, and risk management strategies. By understanding the factors driving prepayment risks, lenders can make informed decisions to mitigate risks and optimize profitability.

In conclusion, the Prepayment Risk Analysis dashboard offers a comprehensive view of the factors contributing to prepayment behaviors in loans. By leveraging this analysis, lenders can better understand their loan portfolios, identify potential risks, and develop targeted strategies to manage and mitigate prepayment risks effectively. Continuous monitoring and analysis are crucial to adapting to market dynamics, regulatory changes, and borrower behaviors to maintain a healthy and profitable loan portfolio.