

## HR Analytics Report

*Overview:* In this HR Analytics report, we harness the power of data-driven insights using Power BI and DAX queries to gain a comprehensive understanding of the organization's workforce. The dashboard amalgamates various visualizations, key performance indicators (KPIs), and slicers to present a holistic view of HR-related metrics.

### *Visualizations:*

1. **Employees by Department (Pie Chart):**
  - Provides a quick snapshot of the distribution of employees across different departments, aiding in workforce planning and resource allocation.
2. **Employees by Age and Gender (Stacked Column Chart):**
  - Illustrates the demographic composition of the workforce, offering insights into age and gender diversity.
3. **Employees by Business Travel (Pie Chart):**
  - Highlights the impact of business travel on the workforce, valuable for travel-related policy assessments.
4. **Monthly Salary by Job Role (Stacked Area Chart):**
  - Visualizes the distribution of monthly salaries across various job roles, assisting in salary benchmarking and equity considerations.
5. **Active Employees by Education Field (Stacked Bar Chart):**
  - Displays the count of active employees categorized by their education field, aiding in resource allocation and skillset analysis.
6. **Attrition by Department (Donut Chart):**
  - Illuminates attrition rates within each department, allowing for targeted retention strategies.
7. **Attrition by Job Role (Treemap):**
  - Offers a visual representation of attrition rates by job roles, facilitating identification of critical roles.
8. **Attrition by Education Field (Stacked Bar Chart):**
  - Depicts attrition rates based on employees' education fields, providing insights into skill-specific attrition.
9. **Attrition Rate by Age Group and Gender (Donut Charts):**
  - Provides nuanced insights into attrition rates, stratified by age groups and gender, valuable for identifying demographic trends.

### *KPIs:*

- **Employee Count:**
  - Total count of employees, providing a baseline understanding of the workforce size.
- **Active Employees:**
  - Number of employees currently contributing to the organization's operations.
- **Attrition Count:**
  - Count of employees who have left, helping to gauge the organization's turnover.
- **Attrition Rate:**
  - Percentage of employees who have left, a critical metric for HR strategy and workforce stability.

- **Average Age:**
  - Mean age of the entire workforce, essential for understanding generational dynamics.
- **Average Monthly Income:**
  - Mean monthly income of employees, pivotal for compensation and benefits assessments.

*Slicers:*

- Job Role, Department, and Education Field slicers empower users to dynamically filter data, tailoring analyses to specific segments of the workforce.

*DAX Queries used to create Columns & Measures:*

- **Active Employees (DAX Measure):**
  - Dynamically calculates the count of currently active employees, providing real-time insights.

```
Active Employees = SUM(general_data[EmployeeCount]) -
SUM(general_data[AttritionCount])
```

- **Attrition Rate (DAX Measure):**
  - Utilizes DAX logic to compute the attrition rate, offering a quantitative measure of employee turnover.

```
Attrition Rate =
DIVIDE(
    COUNTROWS(FILTER('general_data', 'general_data'[Attrition] = "Yes")),
    COUNTROWS('general_data')
)
```

- **Average Monthly Income (DAX Measure):**
  - Calculates the mean monthly income, aiding in compensation strategy and budgeting.

```
AVG Monthly Income = AVERAGE(general_data[MonthlyIncome])
```

- **Age Band (DAX Column):**
  - Segments employees into age bands, facilitating age-based analyses and workforce planning.

```
Age Band =
IF(
    'general_data'[Age] <= 30, "Under 30",
    IF(
        general_data[Age] > 30 && general_data[Age] <= 40, "31-40",
        IF(

```

```
general_data[Age] > 40 && general_data[Age] <= 50, "41-50",  
IF(  
  general_data[Age] >= 51, "51 and above"  
)  
)  
)  
)
```

*Conclusion:* This HR Analytics report, grounded in robust data analysis and visualization, serves as a strategic compass for HR decision-makers. The nuanced insights into employee demographics, attrition patterns, and key metrics enable informed decision-making, fostering a proactive and adaptive HR strategy. Leveraging the interactive capabilities of Power BI, stakeholders can explore and uncover valuable insights to drive organizational success.

This HR Analytics report equips decision-makers with valuable insights into the composition, attrition, and key metrics of the workforce. The interactive Power BI dashboard empowers users to explore data dynamically, fostering informed decision-making for effective human resource management.