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## **DATA VISUALIZATION PROJECT REPORT**

**INT233**

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### **DECLARATION**

**I SUBHRADEEP MANNA, STUDENT OF B. TECH UNDER CSE/IT DISCIPLINE AT LOVELY PROFESSIONAL UNIVERSITY, PUNJAB, HEREBY DECLARE THAT ALL THE INFORMATION FURNISHED IN THIS PROJECT REPORT IS BASED ON MY OWN INTENSIVE WORK AND IS GENUINE.**

**DATE – 15/11/2024**

**REGISTRATION NO. - 12221163**

**NAME OF THE STUDENT – SUBHRADEEP MANNA**

## **HR ANALYTICAL DASHBOARD**

**Platform Used: Tableau**

**Dataset Used: HR Data.xlsx**

Effective HR management is crucial for driving organizational success. This HR Dashboard provides a comprehensive view of employee attrition, enabling data-driven decision making to enhance talent retention and development strategies.



## 1. Summary

This project involved creating comprehensive HR analytics dashboards in Tableau to visualize employee metrics, attrition rates, and demographic insights with dynamic filters.

## 2. Highlights

### 2.1 Dynamic HR Dashboard:

- Designed from scratch in Tableau.
- Downloadable data to practice alone.

- Analyzed headcount, attrition, and demographics.

## 2.2 Employee Insights:

- Visualized attrition rates by department and gender.
- Created unique charts like lollipop and donut charts.
- Linked to a similar dashboard created in Power BI.

## 2.3 Interactive Features:

- Used filters for dynamic data exploration.
- Implemented action filters for intuitive data interaction.
- Combined various charts into a cohesive dashboard layout.

## 2.4 Custom Visualizations:

- Created pie charts for department-wise attrition.
- Built frequency charts to analyze employee distribution by age.
- Designed heat maps to display job satisfaction ratings across roles.
- Constructed bar charts to depict attrition based on education levels.
- Assembled all visualizations into a cohesive dashboard.

## 3. Key Insights

### 3.1 Attrition Metrics:

- The dashboard allowed HR departments to track monthly and yearly employee turnover, which is essential for strategic planning.

### 3.2 Demographic Analysis:

- Insights into employee demographics, such as age and gender, help in understanding workforce diversity and retention challenges.

### 3.3 Interactive Features:

- Filters and action features enhance user engagement and data exploration, making it easier to derive insights.

### 3.4 KPI Visualization:

- Key performance indicators provide a quick overview of employee counts, active employees, and average age, facilitating immediate decision-making.

### 3.5 Data Connectivity:

- The use of Excel data demonstrated practical data connections in Tableau, highlighting the importance of data preparation.

### 3.6 Custom Design:

- Backgrounds and formatting contributed to visual appeal, underscoring the significance of aesthetics in dashboards.

## 4. Learning Opportunities

### 4.1 Visual Representation Matters:

- Using pie charts for department-wise attrition offers clear insights, allowing HR to identify high-risk areas quickly.

#### 4.2 Color Selection Enhances Clarity:

- Customizing colors in charts can significantly improve the dashboard's readability and make important data stand out.

#### 4.3 Age Distributions Reveal Trends:

- A frequency chart analyzing employee age groups can help HR understand workforce demographics and plan for future needs.

#### 4.4 Job Satisfaction Insights:

- A heat map provides a quick overview of job satisfaction, helping management identify roles that may require attention.

#### 4.5 Education Level Impact:

- Analyzing attrition rates by education can reveal trends tied to qualifications, guiding recruitment strategies.

#### 4.6 Interactivity Boosts Engagement:

- Implementing filters allows users to explore data intuitively, increasing the dashboard's effectiveness.

#### 4.7 Cohesive Design is Key:

- Combining various charts into a single dashboard creates a comprehensive view, making data analysis more accessible for stakeholders.

## **5. Conclusion**

This project successfully demonstrated the use of various data visualization techniques in Tableau to analyze HR metrics. The dashboards provided crucial insights into attrition rates, employee demographics, and job satisfaction, aiding strategic HR planning and decision-making. The effective use of interactive features and custom visualizations enhanced user engagement and data exploration.

Future work can focus on improving these dashboards by incorporating advanced algorithms, handling larger datasets, and enhancing interactivity and visual appeal. Continued exploration and application of these techniques will provide significant value to HR departments and other stakeholders, driving better data-driven decisions.