



Project Title	Human Resources Analyst
Tools	Tableau Desktop
Technologies	Business Analyst
Project Difficulties level	intermediate

Dataset : Dataset is available in the given link. You can download it at your convenience.

[Click here to download data set](#)

## About Dataset

Updated 30 January 2023

### Version 14 of Dataset

#### License Update:

There has been some confusion around licensing for this data set. Dr. Carla Patalano and Dr. Rich Huebner are the original authors of this dataset.

We provide a license to anyone who wishes to use this dataset for learning or teaching. For the purposes of sharing, please follow this license:

CC-BY-NC-ND

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

## Codebook

[https://rpubs.com/rhuebner/hrd\\_cb\\_v14](https://rpubs.com/rhuebner/hrd_cb_v14)

PLEASE NOTE -- I recently updated the codebook - please use the above link. A few minor discrepancies were identified between the codebook and the dataset. Please feel free to contact me through LinkedIn ([www.linkedin.com/in/RichHuebner](http://www.linkedin.com/in/RichHuebner)) to report discrepancies and make requests.

## Context

HR data can be hard to come by, and HR professionals generally lag behind with respect to analytics and data visualization competency. Thus, Dr. Carla Patalano and I set out to create our own HR-related dataset, which is used in one of our graduate MSHRM courses called HR Metrics and Analytics, at New England College of Business. We created this data set ourselves. We use the data set to teach HR students how to use and analyze the data in Tableau Desktop - a data visualization tool that's easy to learn.

This version provides a variety of features that are useful for both data visualization AND creating machine learning / predictive analytics models. We are working on expanding the data set even further by generating even more records and a few additional features. We will be keeping this as one file/one data set for now. There is a possibility of creating a second file perhaps down the road where you can join the files together to practice SQL/joins, etc.

Note that this dataset isn't perfect. By design, there are some issues that are present. It is primarily designed as a teaching data set - to teach human resources professionals how to work with data and analytics.

## Content

We have reduced the complexity of the dataset down to a single data file (v14). The CSV revolves around a fictitious company and the core data set contains names, DOBs, age, gender, marital status, date of hire, reasons for termination, department, whether they are active or terminated, position title, pay rate, manager name, and performance score.

Recent additions to the data include:

- Absences
- Most Recent Performance Review Date
- Employee Engagement Score

## Acknowledgements

Dr. Carla Patalano provided the baseline idea for creating this synthetic data set, which has been used now by over 200 Human Resource Management students at the college. Students in the course learn data visualization techniques with Tableau Desktop and use this data set to complete a series of assignments.

## Inspiration

We've included some open-ended questions that you can explore and try to address through creating Tableau visualizations, or R or Python analyses. Good luck and enjoy the learning!

- Is there any relationship between who a person works for and their performance score?
- What is the overall diversity profile of the organization?
- What are our best recruiting sources if we want to ensure a diverse organization?
- Can we predict who is going to terminate and who isn't? What level of accuracy can we achieve on this?
- Are there areas of the company where pay is not equitable?

There are so many other interesting questions that could be addressed through this interesting data set. Dr. Patalano and I look forward to seeing what we can come up with.

If you have any questions or comments about the dataset, please do not hesitate to reach out to me on LinkedIn:

<http://www.linkedin.com/in/RichHuebner>

You can also reach me via email at: [Richard.Huebner@go.cambridgecollege.edu](mailto:Richard.Huebner@go.cambridgecollege.edu)

## HOW WE CREATE PROJECT GUIDE LINE BY USING TABLEAU.

Here is a comprehensive guide to building a Human Resources Analytics dashboard in Tableau, including code snippets and a detailed step-by-step process.

### 1. Project Planning and Scope Definition

#### Objective:

To create an HR analytics dashboard that provides insights into employee demographics, turnover rates, hiring trends, performance metrics, and satisfaction scores to improve HR decision-making.

### 2. Data Collection and Preparation

#### Sample Data:

Let's assume we have the following sample datasets in CSV format:

- `employees.csv`
- `hiring.csv`
- `performance.csv`
- `satisfaction.csv`

#### Sample Data Format:

##### `employees.csv`

CSV

Copy code

```
EmployeeID,Name,Age,Gender,Department,Position,HireDate,TerminationDate,Salary
```

```
1,John Doe,30,Male,Sales,Manager,2015-06-01,,75000
```

```
2,Jane Smith,28,Female,Marketing,Executive,2018-09-15,,65000
```

##### `hiring.csv`

CSV

Copy code

```
CandidateID,ApplicationDate,Source,PositionApplied,Status
```

```
101,2021-01-15,LinkedIn,Sales Associate,Hired
```

```
102,2021-02-20,Referral,Marketing Manager,Rejected
```

## **performance.csv**

CSV

Copy code

```
EmployeeID,ReviewDate,PerformanceScore,ReviewerComments
```

```
1,2023-01-15,4.5,Exceeds Expectations
```

```
2,2023-01-15,4.0,Meets Expectations
```

## **satisfaction.csv**

CSV

Copy code

```
EmployeeID,SurveyDate,SatisfactionScore,Feedback
```

```
1,2023-03-01,4.2,Very Satisfied
```

```
2,2023-03-01,3.8,Satisfied
```

## **3. Data Integration and Cleaning**

For simplicity, assume the data is clean and properly formatted.

## **4. Tableau Dashboard Development**

## Setting Up Tableau:

### 1. Connect to Data Sources: Load the CSV files into Tableau.

- Go to **Data > Connect to Data > Text File** and select your CSV files.

## Creating Visualizations:

### 1. Employee Demographics:

- **Age Distribution:** Histogram.
- **Gender Distribution:** Pie chart.
- **Department Distribution:** Bar chart.

### 2. Employee Turnover:

- **Turnover Rate:** Line chart.
- **Termination Reasons:** Bar chart.

### 3. Hiring Trends:

- **Hiring Rate:** Line chart.
- **Source of Hire:** Bar chart.
- **Time to Fill:** Bar chart.

### 4. Performance Metrics:

- **Performance Scores:** Scatter plot.
- **Top Performers:** Leaderboard.

### 5. Employee Satisfaction:

- **Satisfaction Scores:** Line chart.
- **Feedback Analysis:** Word cloud.

## Example Tableau Calculations

### Calculated Fields:

#### Turnover Rate:

tableau

Copy code

```
IF ISNULL([TerminationDate]) THEN 0 ELSE 1 END
```

1.

### Hiring Rate:

tableau

Copy code

```
COUNTD([CandidateID])
```

2.

### Time to Fill:

tableau

Copy code

```
DATEDIFF('day', [ApplicationDate], [HireDate])
```

3.

## Building the Dashboard

1. **Layout and Design:** Arrange visualizations logically with filters and interactive elements.

### Sample Dashboard Layout:

- **Main Dashboard Overview:**
  - KPIs: Total Employees, Turnover Rate, Average Performance Score, Average Satisfaction Score.
  - Links to detailed dashboards: Demographics, Turnover, Hiring, Performance, Satisfaction.

## Creating Visualizations in Tableau

1. **Employee Demographics Dashboard:**

**Age Distribution:** Create a histogram.

tableau

Copy code

1. Drag `Age` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Bar`.

○

**Gender Distribution:** Create a pie chart.

tableau

Copy code

1. Drag `Gender` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Pie`.
4. Drag `Gender` to Color.

○

**Department Distribution:** Create a bar chart.

tableau

Copy code

1. Drag `Department` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Bar`.

○

## 2. Employee Turnover Dashboard:



**Turnover Rate:** Create a line chart.

tableau

Copy code

1. Drag `HireDate` to Columns.
2. Drag `Turnover Rate` (calculated field) to Rows.
3. Change the mark type to `Line`.



**Termination Reasons:** Create a bar chart.

tableau

Copy code

1. Drag `Termination Reason` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Bar`.



### 3. Hiring Trends Dashboard:

**Hiring Rate:** Create a line chart.

tableau

Copy code

1. Drag `ApplicationDate` to Columns.
2. Drag `Hiring Rate` (calculated field) to Rows.
3. Change the mark type to `Line`.



**Source of Hire:** Create a bar chart.

tableau

Copy code

1. Drag `Source` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Bar`.

○

**Time to Fill:** Create a bar chart.

tableau

Copy code

1. Drag `PositionApplied` to Columns.
2. Drag `Time to Fill` (calculated field) to Rows.
3. Change the mark type to `Bar`.

○

#### 4. Performance Metrics Dashboard:

**Performance Scores:** Create a scatter plot.

tableau

Copy code

1. Drag `ReviewDate` to Columns.
2. Drag `PerformanceScore` to Rows.
3. Change the mark type to `Circle`.

4. Drag `EmployeeID` to Detail.

○

**Top Performers:** Create a leaderboard.

tableau

Copy code

1. Drag `PerformanceScore` to Rows.

2. Drag `EmployeeID` to Columns.

3. Sort by `PerformanceScore`.

○

**5. Employee Satisfaction Dashboard:**

**Satisfaction Scores:** Create a line chart.

tableau

Copy code

1. Drag `SurveyDate` to Columns.

2. Drag `SatisfactionScore` to Rows.

3. Change the mark type to `Line`.

○

**Feedback Analysis:** Create a word cloud.

tableau

Copy code

1. Drag `Feedback` to Text.

2. Change the mark type to `Text`.

○

## Deploying and Sharing the Dashboard

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Human Resources Analytics tableau project with code and dashbord

ChatGPT

Below is a detailed guide on creating a Human

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Human Resources Analytics tableau project with code and dashbord

ChatGPT

## Human Resources Analytics Tableau Project

### Objective:

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- `hiring.csv`
- `performance.csv`
- `satisfaction.csv`

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### **satisfaction.csv**

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Copy code

EmployeeID,SurveyDate,SatisfactionScore,Feedback

1,2023-03-01,4.2,Very Satisfied

2,2023-03-01,3.8,Satisfied

## **Data Integration and Cleaning**

Assume the data is clean and properly formatted. Load the CSV files into Tableau.

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COUNTD([CandidateID])
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### Time to Fill:

tableau

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DATEDIFF('day', [ApplicationDate], [HireDate])
```

3.

## Building the Dashboard

1. **Layout and Design:** Arrange visualizations logically with filters and interactive elements.

### Sample Dashboard Layout:

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## Creating Visualizations in Tableau

1. **Employee Demographics Dashboard:**

**Age Distribution:** Create a histogram.

tableau

Copy code

1. Drag `Age` to Columns.

2. Drag `Number of Records` to Rows.

3. Change the mark type to `Bar`.



○

**Gender Distribution:** Create a pie chart.

tableau

Copy code

1. Drag `Gender` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Pie`.
4. Drag `Gender` to Color.

○

**Department Distribution:** Create a bar chart.

tableau

Copy code

1. Drag `Department` to Columns.
2. Drag `Number of Records` to Rows.
3. Change the mark type to `Bar`.

○

## 2. Employee Turnover Dashboard:

**Turnover Rate:** Create a line chart.

tableau

Copy code

1. Drag `HireDate` to Columns.

2. Drag `Turnover Rate` (calculated field) to Rows.

3. Change the mark type to `Line`.

○

**Termination Reasons:** Create a bar chart.

tableau

Copy code

1. Drag `Termination Reason` to Columns.

2. Drag `Number of Records` to Rows.

3. Change the mark type to `Bar`.

○

### 3. Hiring Trends Dashboard:

**Hiring Rate:** Create a line chart.

tableau

Copy code

1. Drag `ApplicationDate` to Columns.

2. Drag `Hiring Rate` (calculated field) to Rows.

3. Change the mark type to `Line`.

○

**Source of Hire:** Create a bar chart.

tableau

Copy code

1. Drag `Source` to Columns.

2. Drag ``Number of Records`` to Rows.

3. Change the mark type to ``Bar``.

○

**Time to Fill:** Create a bar chart.

tableau

Copy code

1. Drag ``PositionApplied`` to Columns.

2. Drag ``Time to Fill`` (calculated field) to Rows.

3. Change the mark type to ``Bar``.

○

#### 4. Performance Metrics Dashboard:

**Performance Scores:** Create a scatter plot.

tableau

Copy code

1. Drag ``ReviewDate`` to Columns.

2. Drag ``PerformanceScore`` to Rows.

3. Change the mark type to ``Circle``.

4. Drag ``EmployeeID`` to Detail.

○

**Top Performers:** Create a leaderboard.

tableau

Copy code

1. Drag `PerformanceScore` to Rows.
2. Drag `EmployeeID` to Columns.
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○

## 5. Employee Satisfaction Dashboard:

**Satisfaction Scores:** Create a line chart.

tableau

Copy code

1. Drag `SurveyDate` to Columns.
2. Drag `SatisfactionScore` to Rows.
3. Change the mark type to `Line`.

○

**Feedback Analysis:** Create a word cloud.

tableau

Copy code

1. Drag `Feedback` to Text.
2. Change the mark type to `Text`.

○

## Deploying and Sharing the Dashboard

1. Publish the Dashboard:

- Go to **Server > Publish Workbook**.
- Select your Tableau Server or Tableau Online.

## **Summary**

This guide provides a detailed overview of creating a Human Resources Analytics Tableau dashboard. By following the steps and using the provided code snippets, you can build a comprehensive HR dashboard that helps in making data-driven decisions. If you need more specific visualizations or have additional data, you can expand on this foundation to include other relevant metrics and insights.

[Reference link](#)