Project Documentation

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1 Overview

What is your topic? Why it is important/interesting? What's your goal?

I have selected the *Human Resource* dataset from the given dataset choices. I believe this dataset provided an interesting story to uncover which could only be revealed once the data is dissected and examined based on my set of questions. I began to think from the perspective of an *HR manager*, and thus my goal was broadly to learn more about the nature of employee turnover in the company over the years, their ethnicity, gender distribution and department employability.

2 Analytics Questions

List all the questions you plan to analyze / answer with your visualization.

- What is the percentage of employees in each department as the percentage of total employees?
- What is the employee turnover throughout the 20-year time period? Analyzing both current employees and those which do not serve.
- What is the gender makeup for employees (both active & terminated employees)?
- What is the age distribution of the employees? and in what age bracket does the majority of the workforce lie?
- What is the percentage of employ based on the location of work?
- Which state employs the high workforce?
- What is the state-wise racial distribution in terms of number of employees?
- What city of the state employs the highest workforce and what is the city's racial distribution?
- What is the racial distribution in each department?
- What is the racial spread for each gender?

3 Dashboard Description – First dashboard

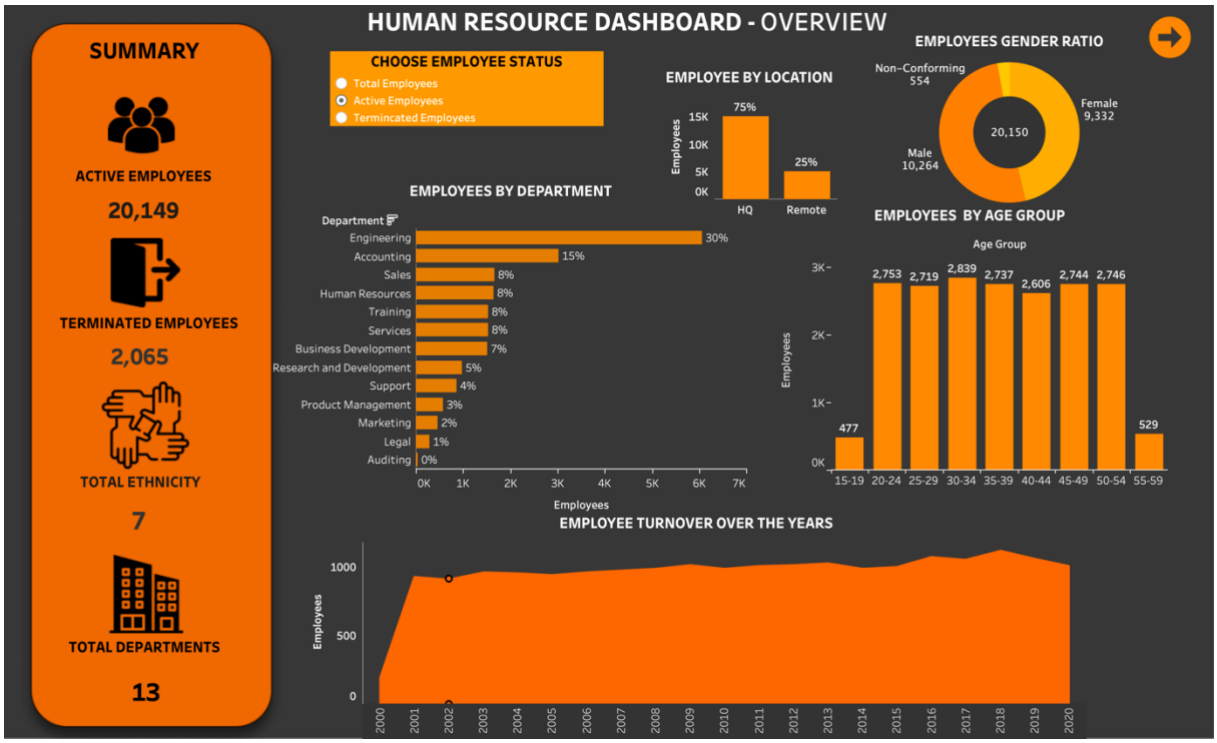
3.1 Summary

What is the goal of the dashboard?

The first dashboard aims to show the overall structure of the employees both current employees (termed as *active*) and those terminated till date. This dashboard serves to help on board a new HR resource with the overall snapshot of the organization's employee makeup. It provides an overview of employees characterized by age, gender, department

employability and turnover trend.

3.2 Screenshot(s)



3.3 Component description

What does the user see? Why did you choose the charts that are on the dashboard?

This dashboard depicts a series of information about the employees in the company. On the left there is a chart which shows an overall summary statistic about the employees. Rest of the dashboard focuses on the specific attributes. There is *choose employee status* tab, which allows users to select the parameter they want to examine.

I have mainly used bar graphs on this dashboard because it helps to identify key values right with a glance. There is a bar graph on percentage of employees by each department this shows that the highest number of employees belong to the engineering department.

There is an area graph which shows the number of hiring/terminations of employees per year. I could have used a line graph as well, however since we are looking at one parameter at one time, and the area chart in fact encapsulates the bar graphs inside.

There is bar graph which shows the age distribution of employees in the company. I divided the age of employees into 5-year bin. Then I plotted against the employee count. It shows that most employees lie in the 30-34 years age bracket.

There is also a *donut shaped* pie chart for the gender distribution of the employees. Since there are three categories for gender, pie chart was a suitable choice to divide the employees into their declared gender.

There is another bar chart which depicts the location of employees. It shows the majority of employees are based in the company's head quarter than remotely working.

3.4 Functionality / Interactivity

What can the user do? What Tableau techniques are being used by the visuals?

There is an option to choose a parameter which users can select to examine, for example they choose to examine the active employees or terminated employees or both. Selecting the option will change the visuals to display information about their selected parameter.

In order to create this parameter, I created a *calculated field* which is a feature in Tableau. It contained values for one type of employment status. The output was either NULL or one of the values (active, terminated or total employees) this output was used as the input for the parameter field. The parameter helped to assign value for each of the graph on which it was applied onto.

The other thing that users can do is to click (while pressing ALT) on the arrow on the top right corner of this dashboard. Which will navigate them to the next sheet of the dashboard. This is implemented using the object called *navigation* which is a built-in function in Tableau dashboard design. I have assigned navigation feature onto an image.

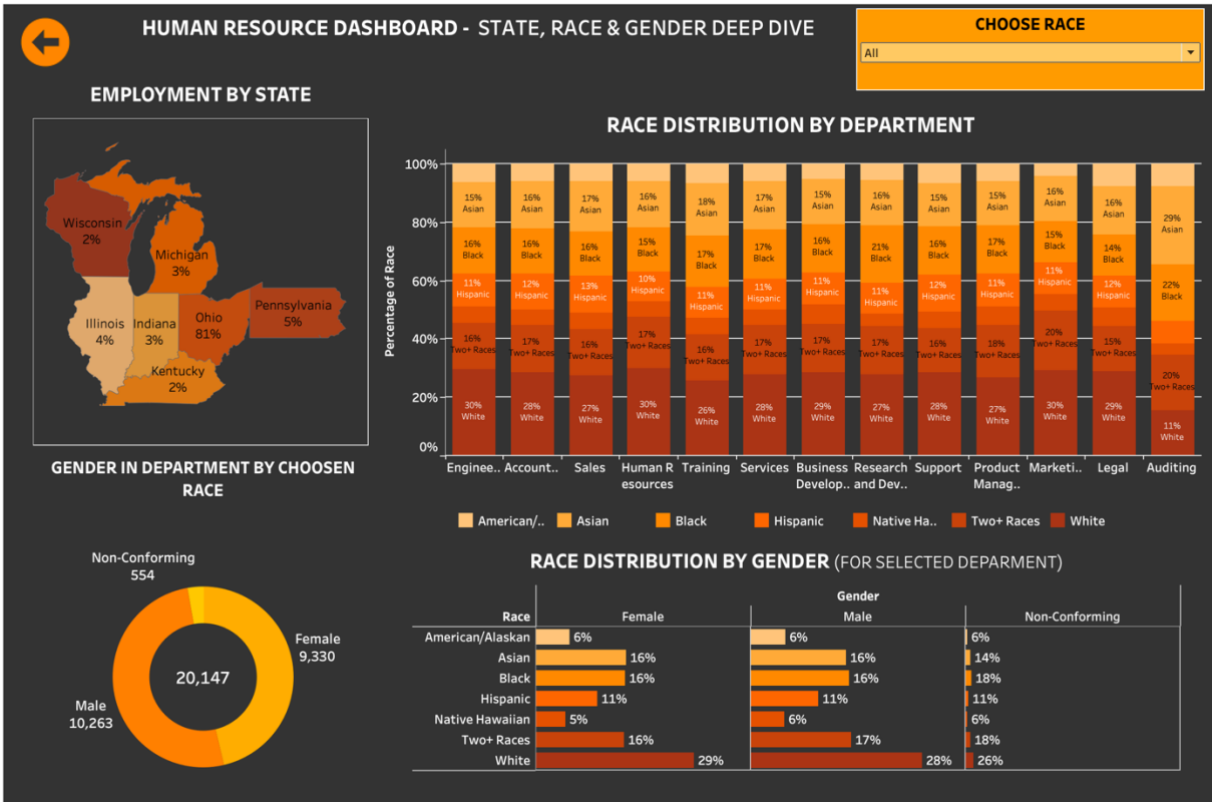
4 Dashboard Description – Second dashboard

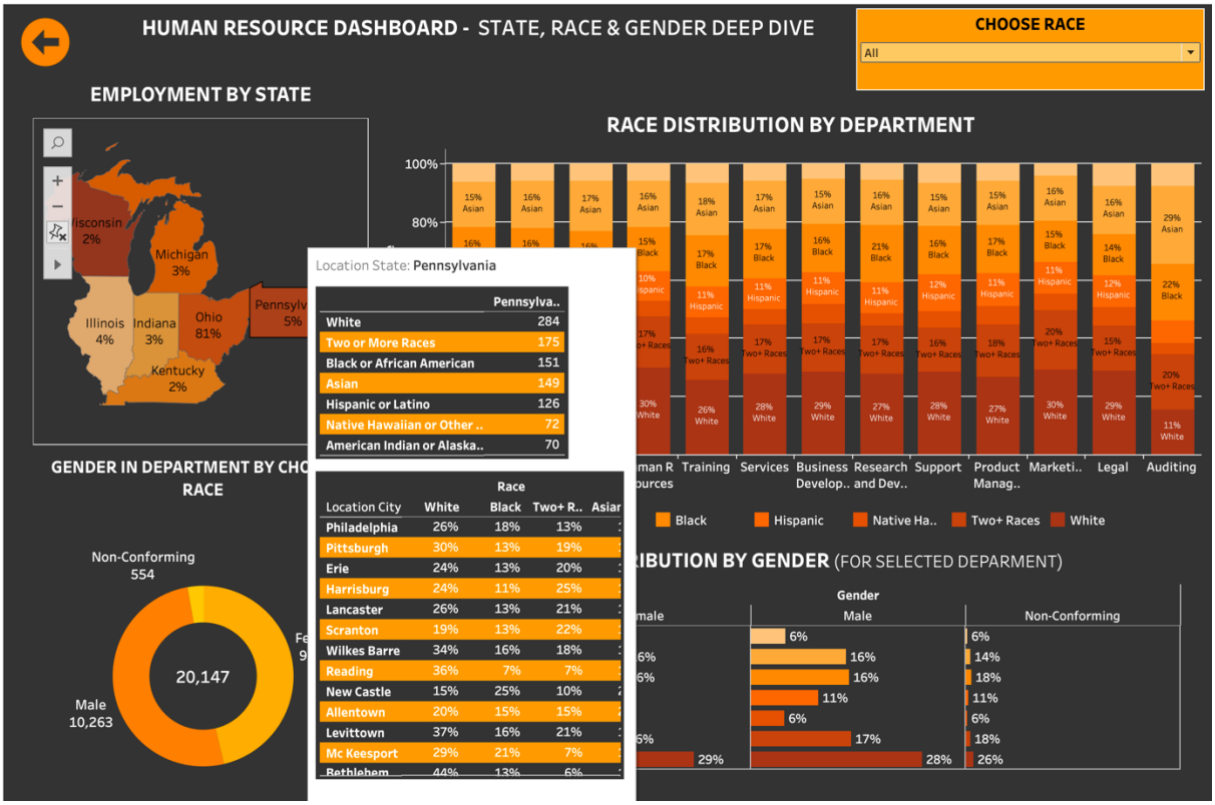
4.1 Summary

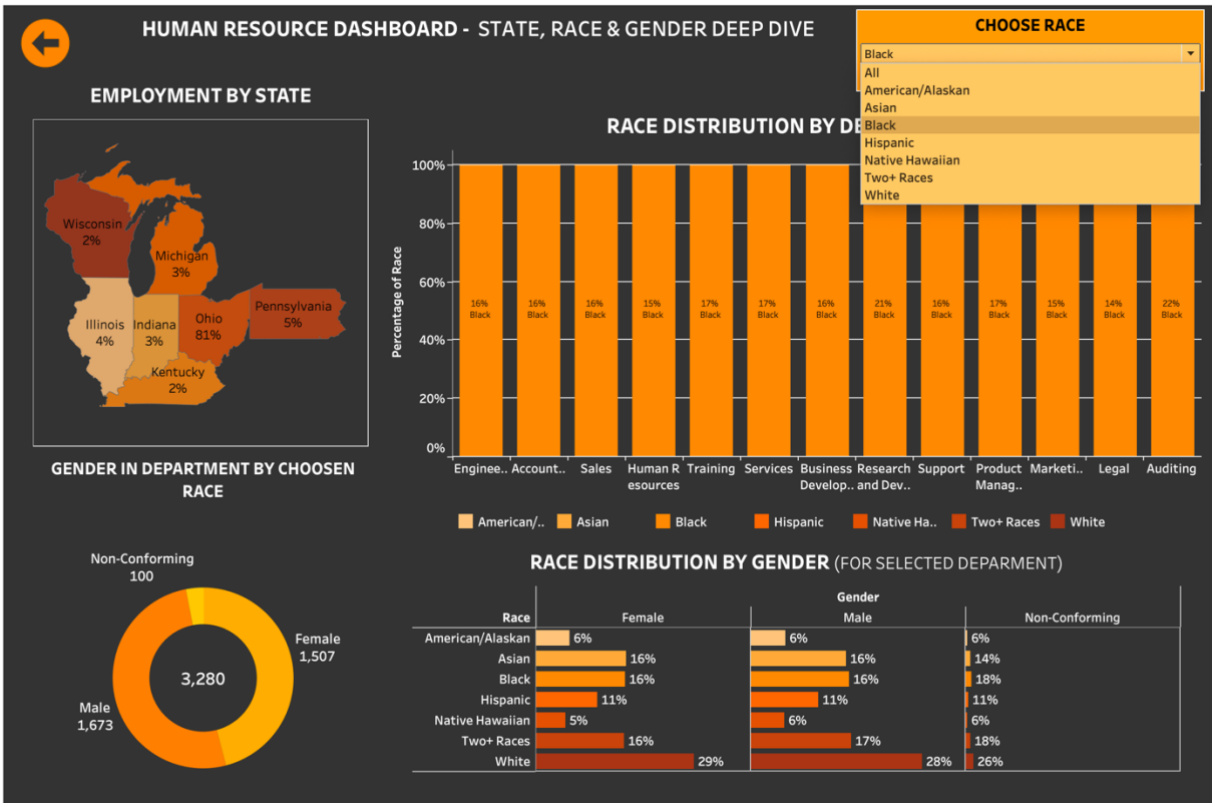
What is the goal of the dashboard?

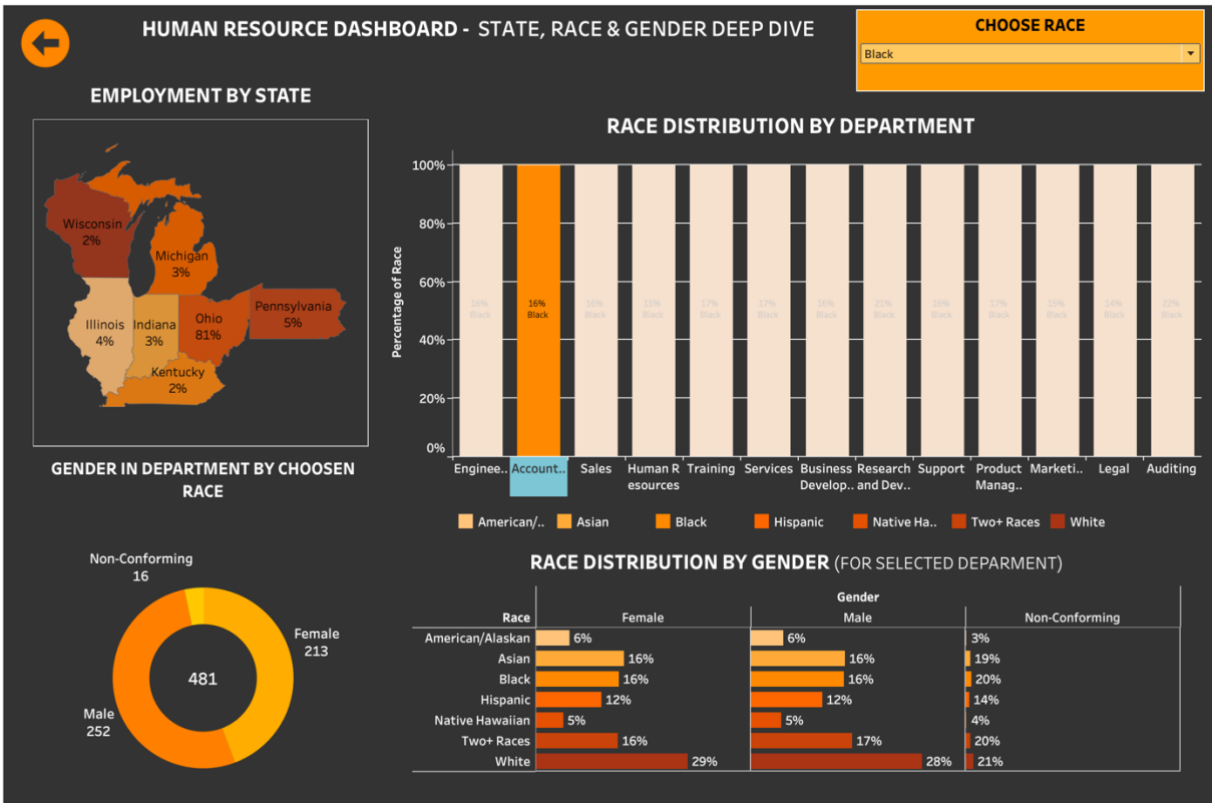
The goal of this dashboard is the deep dive in the *Human Resource* data and dissect it based on the metrics of race, gender, state and city.

4.2 Screenshot(s)






HUMAN RESOURCE DASHBOARD - STATE, RACE & GENDER DEEP DIVE
CHOOSE RACE
Black
All
American/Alaskan
Asian
Black
Hispanic
Native Hawaiian
Two+ Races
White
EMPLOYMENT BY STATE
Wisconsin 2%
Michigan 3%
Illinois 4%
Indiana 3%
Ohio 81%
Pennsylvania 5%
Kentucky 2%
RACE DISTRIBUTION BY DE
Percentage of Race
Enginee..
Account..
Sales
Human Resources
Training
Services
Business Develop..
Research and Dev..
Support
Product Manag..
Marketi..
Legal
Auditing
American/..
Asian
Black
Hispanic
Native Ha..
Two+ Races
White
GENDER IN DEPARTMENT BY CHOOSEN RACE
Non-Conforming 100
Female 1,507
3,280
Male 1,673
RACE DISTRIBUTION BY GENDER (FOR SELECTED DEPARMENT)
Gender
Race
Female
Male
Non-Conforming
American/Alaskan 6% 6% 6%
Asian 16% 16% 14%
Black 16% 16% 18%
Hispanic 11% 11% 11%
Native Hawaiian 5% 6% 6%
Two+ Races 16% 17% 18%
White 29% 28% 26%


HUMAN RESOURCE DASHBOARD - STATE, RACE & GENDER DEEP DIVE
CHOOSE RACE
Black
EMPLOYMENT BY STATE
Wisconsin 2%
Michigan 3%
Illinois 4%
Indiana 3%
Ohio 81%
Pennsylvania 5%
Kentucky 2%
RACE DISTRIBUTION BY DEPARTMENT
Percentage of Race
Enginee..
Account..
Sales
Human Resources
Training
Services
Business Develop..
Research and Dev..
Support
Product Manag..
Marketi..
Legal
Auditing
American/..
Asian
Black
Hispanic
Native Ha..
Two+ Races
White
GENDER IN DEPARTMENT BY CHOOSEN RACE
Non-Conforming 16
Female 213
481
Male 252
RACE DISTRIBUTION BY GENDER (FOR SELECTED DEPARMENT)
Gender
Race
Female
Male
Non-Conforming
American/Alaskan 6% 6% 3%
Asian 16% 16% 19%
Black 16% 16% 20%
Hispanic 12% 12% 14%
Native Hawaiian 5% 5% 4%
Two+ Races 16% 17% 20%
White 29% 28% 21%

4.3 Component description

What does the user see? Why did you choose the charts that are on the dashboard?

The users can see the following;

- Employment by state; Geographical map is chosen to display the employment area of our dataset. It helps users to visualize better.
- Race distribution in the selected state (by hovering over the map of the state). Table is shown to display that because it give the variables in the list format
- Citywise race distribution of the selected state
- Race distribution in each department of the selected race. Its shown in stacked bar chart. Helps users to contrast the different races in each depatment.
- Gender distribution for the selected race. *Donut shaped* pie chart is used for the gender distribution of the employees. Since there are three categories for gender, pie chart was a suitable choice to divide the employees into their declared gender.
- Race & Gender split for the choosen department. Horizontal bar chart is used to showcase the results in comparable format
- There is a menu option to select the race.

4.4 Functionality / Interactivity

What can the user do? What Tableau techniques are being used by the visuals?

The users can;

- hover over the map of the state and visualization will display the number of employs from each race. The visualization will also show the cities of the state displaying the racial diversity. This is achieved by employing the *Tooltip* feature of Tableau.
- click on the menu for *Choose Race.* This will drop down a list of 7 Races. They can choose the race. The result will be display of that race as percentage in each department and the number of employees of that race in the overall organization. This is achieved my creating a parameter for race in Tableau.
- click on the department name shown in the column axis of '*Race Distribution by Department graph'* the bar chart shown in the base of the dashboard will display the race distribution in each gender and pie chart will adjust as well to show overall employee numbers by gender. This is done through the **action** feature of Tableau. The action is created as a filter for departments and applied on the pie-chart and bar chart.

- There is a navigation button the top left corner of this dashboard. Which will navigate users back to the previous sheet of dashboard. This is implemented using the object called *navigation* which is a built-in function in Tableau dashboard design. I have assigned navigation feature onto an image.