DATA ANALYTICS WITH IBM COGNOS

ASSIGNMENT 2

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DATASET MODIFICATIONS

For the given dataset, before beginning with the visualizations, I have modified the table by deleting some attributes and modifying the others. Given below are the details for the same :

1. Deletion
      Several attributes like Department ID, Performance ID, etc have been removed in order to reduce redundancy since there were pre-existing text attributes with detailed explanation for the respective attributes.

2. Modification
      Certain attributes like the HispanicLatino attribute has been cleaned in order to avoid confusion between the same entries entered in different cases (upper and lower).

Below is the link to this data module:
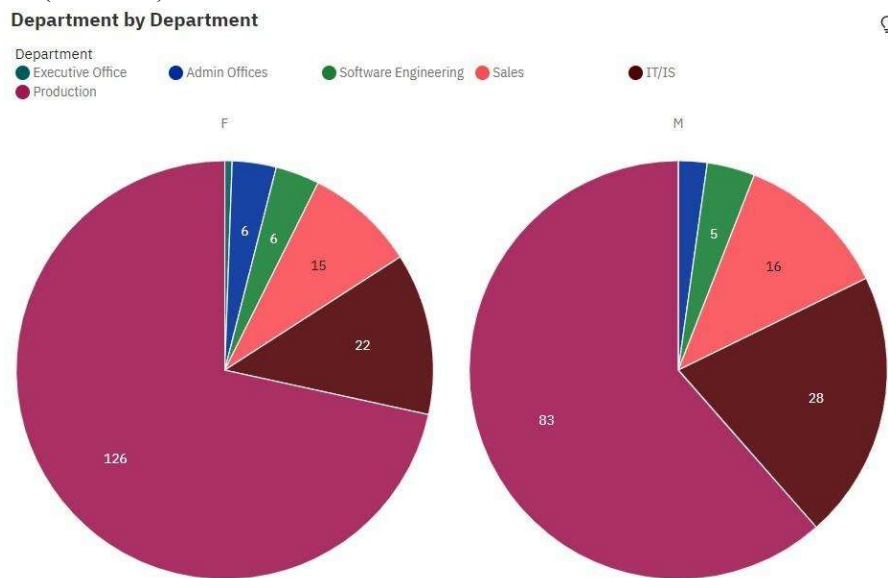
https://us3.ca.analytics.ibm.com/bi/?perspective=ca-modeller&pathRef=.my_folders%2FAssignment%2B2%2FHR%2BData%2BModule

VISUALIZATIONS

1. Gender RatioSegments - Sex
      Size - Sex

Sex by Sex

Sex
● M ● F
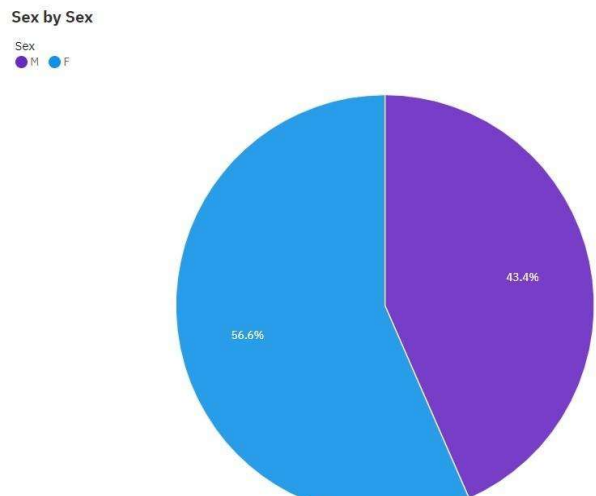
2. Gender Distribution in Different Departments
      Segments - Deparment
      Size - Deparment
      Repeat (column) - Sex

Department by Department

Department
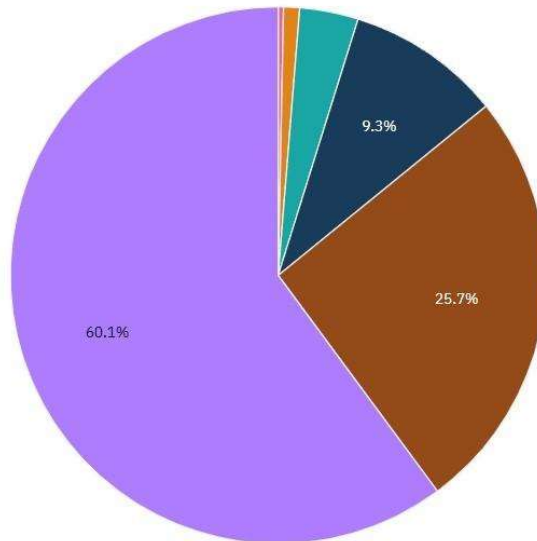● Executive Office ● Admin Offices ● Software Engineering ● Sales ● IT/IS
● Production

3. Racial DistributionSegments - RaceDesc

Size - RaceDesc

RaceDesc by RaceDesc

RaceDesc
- Hispanic
- Asian
- American Indian or Alaska Native
- Black or African American
- Two or more races
- White

60.1% — White
25.7% — Black or African American
9.3% — Asian

4. Hispanic Latino ratioSegments **-** HispanicLatino
   Size - HispanicLatino

HispanicLatino by HispanicLatino

HispanicLatino
- YES
- NO

28
283
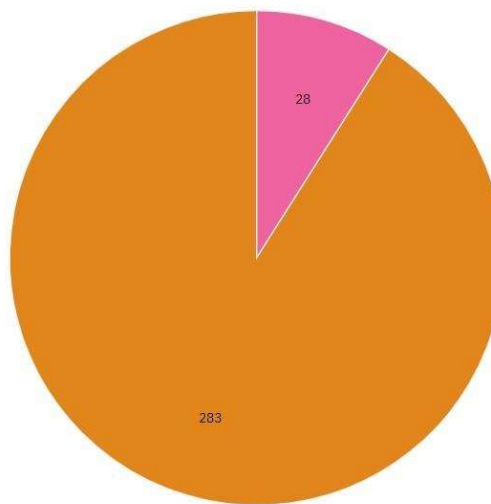
5. Salary dependent on Special Project Count per
   Departmentx axis - Salary
   y axis **-** SpecialProjectsCount
   Color - Department

Salary by SpecialProjectsCount colored by Department
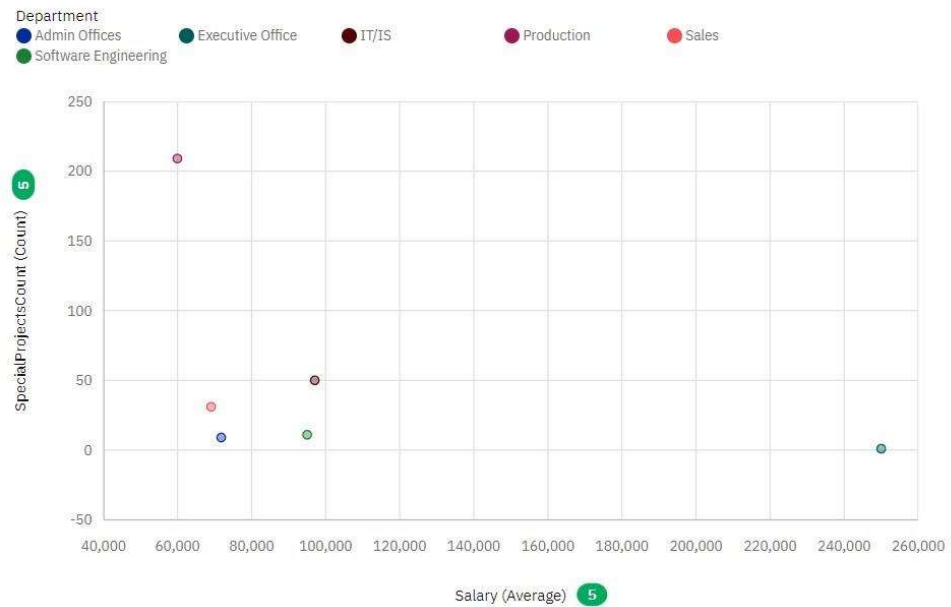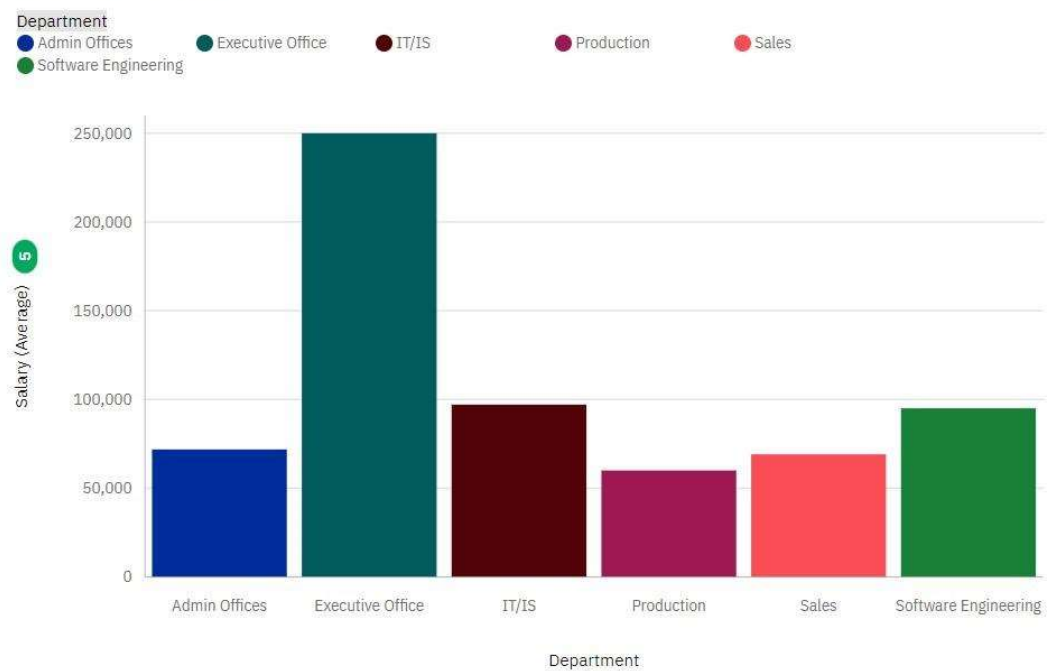

6. Department - wise Salary Distribution
   Length - Salary
   Color - Department

Salary, Department

7. State - wise distribution of Employees
   Locations - State
   Color - State

EmpID (Count dist...

1   276

State

● TN   ● ID   ● AZ   ● CA   ● IN   ● GA   ● KY   ● CT   ● VA   ● NY   ● NC   ● OR   ● MA   ● TX
● VT   ● AL   ● WA   ● OH   ● NH   ● RI   ● PA   ● CO   ● UT   ● FL   ● NV   ● MT   ● ND   ● ME

8. Employee satisfaction rate for employees in each
   Departmentx axis - Department y axis -
   EmpSatisfaction

EmpSatisfaction for Department

Column values
■ Increase   ■ Decrease   ● Total

9. Salary differentiated by Performance score for each
   department keeping theengagement survey in mind
   Size - EmpSatisfaction , Repeat (column) -
   Department x axis - Salary y axis -
   EngagementSurvery Color - PerformanceScore

Salary by EngagementSurvey colored by PerformanceScore and sized by EmpSatisfaction

10. Performance of all Mangers according to their Performance Scoresx axis - ManagerName y axis - PerformanceScore
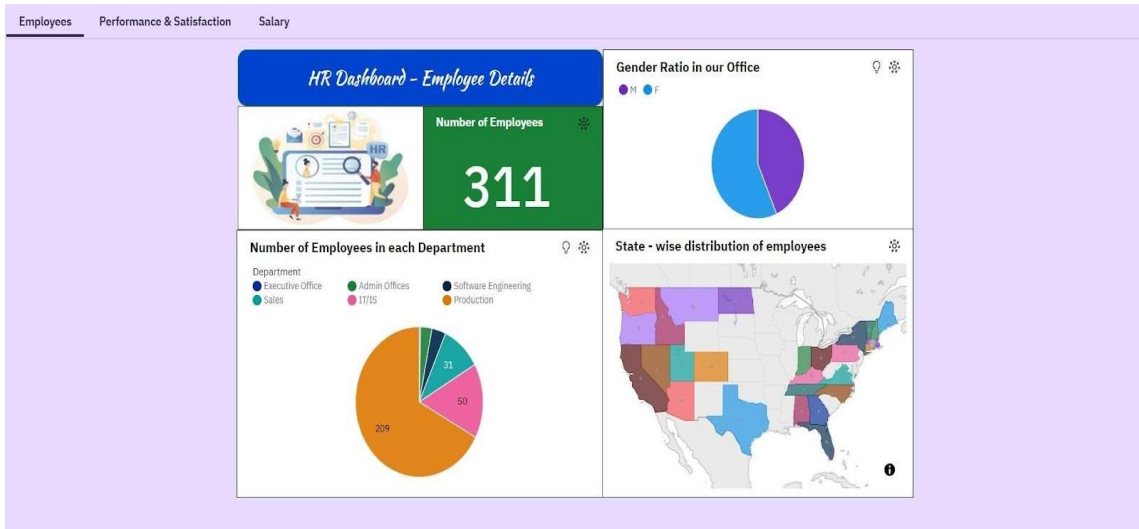
PerformanceScore by ManagerName

11. Termination ReasonsWords - TermReason
    Size - TermReason

TermReason sized by TermReason

TermReason (Cou...

1   207
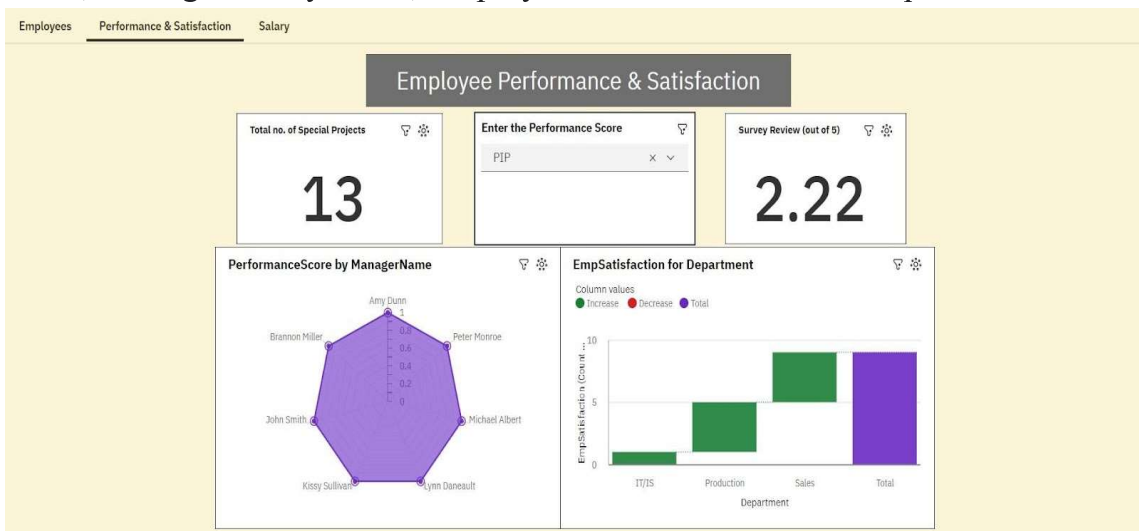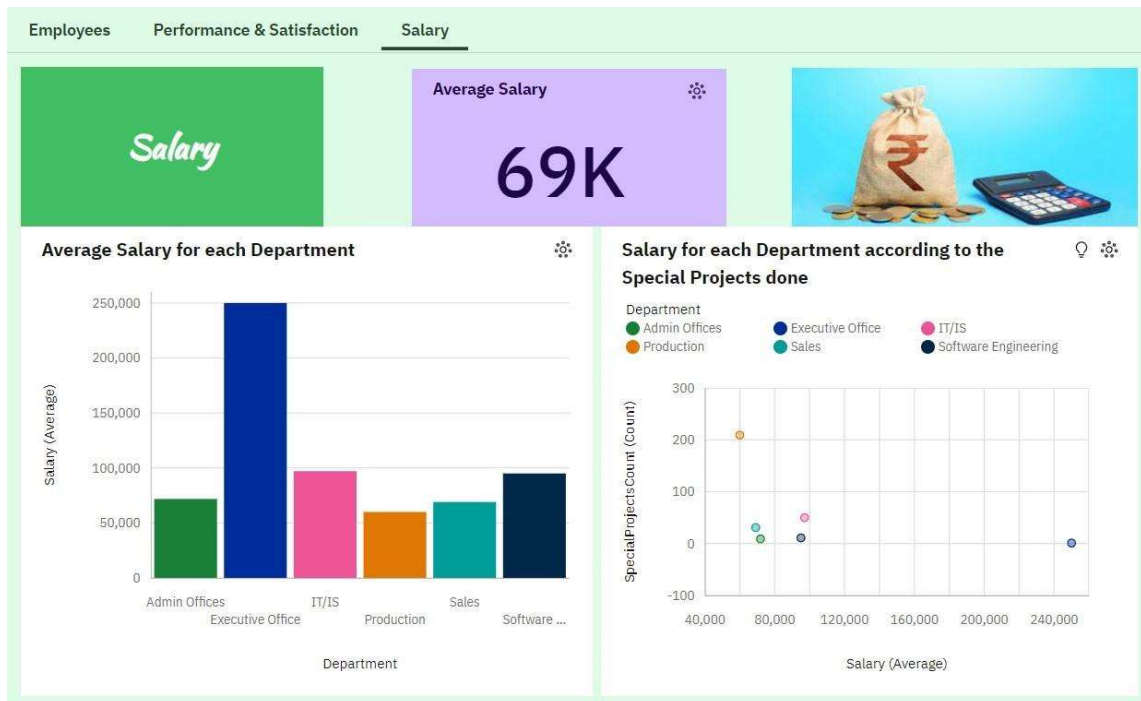
DASHBOARD

1. General Employee Details - Employee count, sexual and racial distribution, state wise distribution
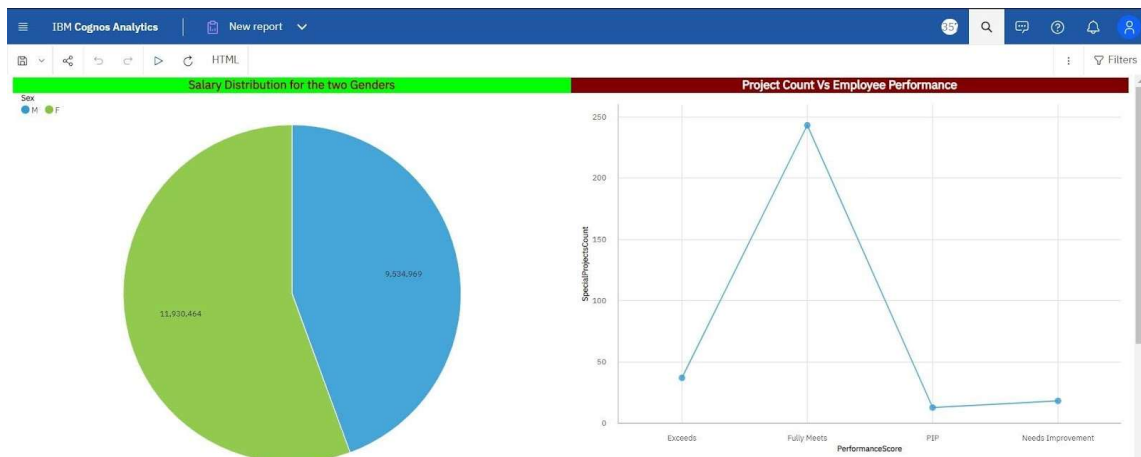

2. Employee Performance and Satisfaction - Special Projects count, Performance Score, Average Survey count, Employee Satisfaction in each Department

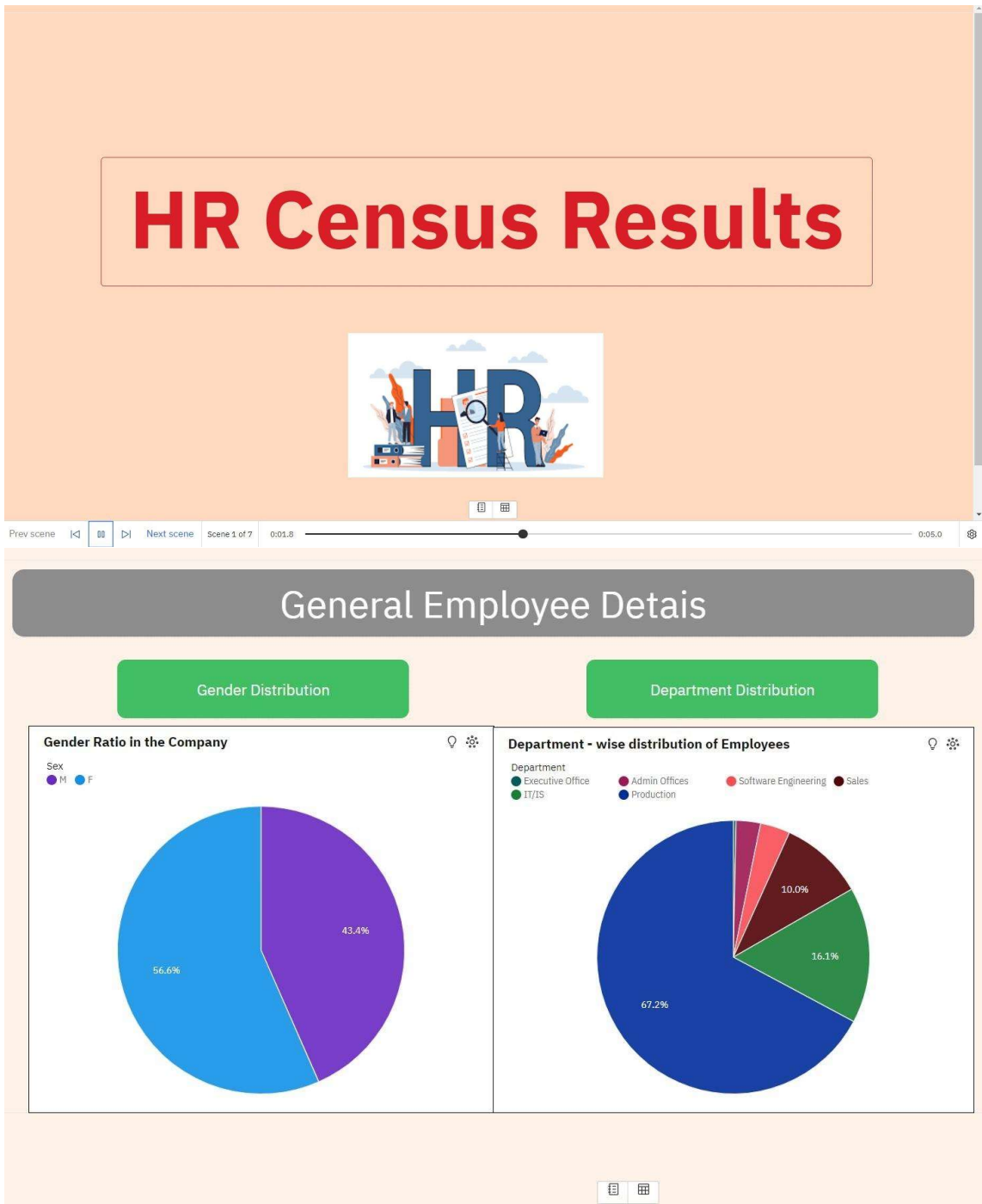3. Salary Distribution - Average Salary, Department wise average salary, effect of special projects on salary

REPORT

HTML

Deparment - wise Salary Distribution

Department
● Production   ● Sales   ● IT/IS   ● Software Engineering   ● Admin Offices
● Executive Office

Salary Level of employees Recruited from different sources

Salary   RecruitmentSource
52,505   6,548,330   ● Employee Referral   ● Diversity Job Fair   ● Indeed   ● Google Search
                        ● LinkedIn   ● On-line Web application   ● CareerBuilder   ● Website
                        ● Other

HTML

Termination vs Involvement in Engagement Survey

EngagementSurvey   TermReason
2   862.8   ● RETURN TO SCHOOL   ● PERFORMANCE   ● MORE MONEY
                ● HOURS   ● ANOTHER POSITION   ● UNHAPPY
                ● MILITARY   ● MATERNITY LEAVE - DID NOT ...   ● MEDICAL ISSUES
                ● ATTENDANCE   ● RETIRING   ● GROSS MISCONDUCT
                ● N/A-STILLEMPLOYED   ● CAREER CHANGE   ● LEARNED THAT HE IS A GANG...
                ● RELOCATION OUT OF AREA   ● NO-CALL, NO-SHOW   ● FATAL ATTRACTION

Salary dependent on Special Project Count per Department

Department
● Production   ● Sales   ● IT/IS   ● Software Engineering   ● Admin Offices
● Executive Office

HR Census Results

General Employee Detais

Gender Distribution

Department Distribution

Gender Ratio in the Company

Sex
● M ● F

43.4%

56.6%

Department - wise distribution of Employees

Department
● Executive Office ● Admin Offices ● Software Engineering ● Sales
● IT/IS ● Production

10.0%
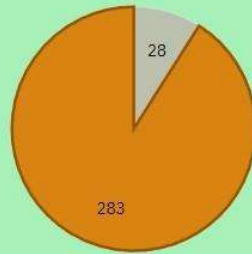
16.1%

67.2%

United by the Racial Differences

Our company has people from various backgrounds, yet the harmony remains intact
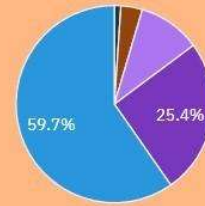

Hispanic Latino Ratio
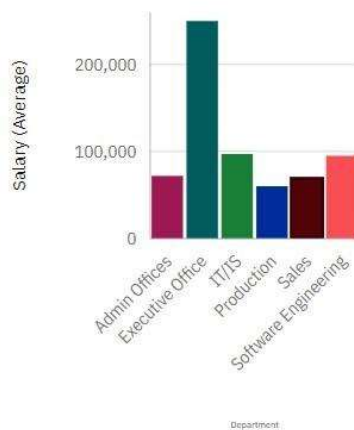
HispanicLatino
○ YES ● NO

28

283

Racial Distribution

RaceDesc
● American Indian or Alaska Native
● Two or more races
● Asian

59.7%   25.4%

Salary Distribution &
Factors Affecting Salary of Employees

- The visualization on the left depicts the average salary of employees working in each department.
- The visualization on the right depicts how special projects in each department affect the average salaries in the departments.

Salary, Department

Salary (Average)

200,000

100,000

0

Admin Offices
Executive Office
IT/IS
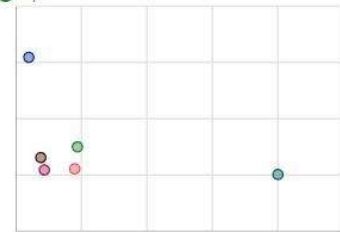Production
Sales
Software Engineering

Department

Salary by SpecialProjectsCount colored by Department

Department
● Admin Offices
● Executive Office
● IT/IS

50,000 100,000 150,000 200,000 250,000 300,000

Salary on Basis of Performance Score for each Department

Salary by EngagementSurvey colored by PerformanceScore and sized by EmpSatisfaction

EmpSatisfaction (...

PerformanceScore
● Exceeds   ● Fully Meets   ● Needs Improvement   ● PIP

1   4

Admin Offices   Executive Office   IT/IS   Production

(scrollable graph)

Employee Performance & Satisfaction

- The visualization on the left focuses on the performances on all the managers in the company.
- The visualization on the right gives us an idea of how satisfied the employees are, from different departments.

PerformanceScore by ManagerName

EmpSatisfaction for Department

Column values
● Increase   ● Decrease   ● Total

Termination of Employees

On selecting the reasons for termination from the filter dropdown, we can assess the count of people terminated from our organization for the selected reason. This can help in accessing the different reasons for termination and also check if there is anything that the organization can do in order to reduce certain

Termination Reason

MORE MONEY

Number of Employees Terminated

1