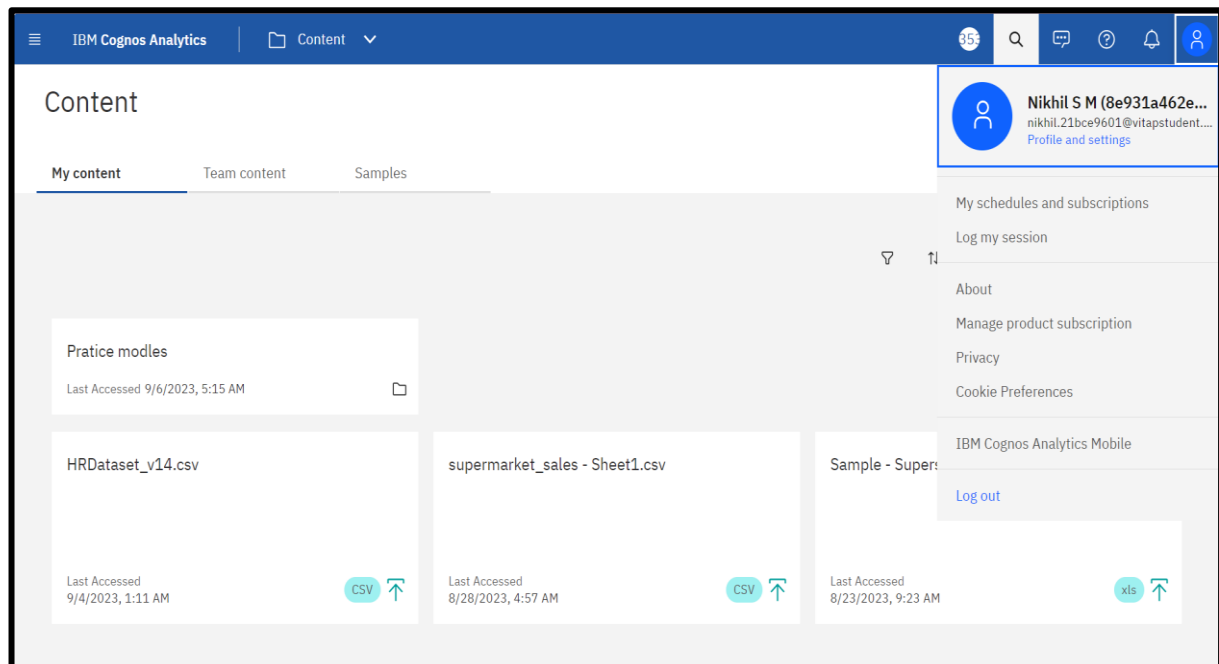


# IBM Cognos Analytics

## Assignment – 2

### 1. Upload the dataset to Cognos Analytics:



### 2. Delete the unnecessary columns:

In the above data set Emp\_Id and Zip columns are removed as they are not useful for analytics.

The screenshot shows the IBM Cognos Analytics 'Data module' view for the 'HRDataset\_v14.csv' dataset. The 'Grid' view is selected, displaying a table with columns: Tenure, Emp Age, Employee\_count, Employee\_Name, MarriedID, and MaritalStatusID. The 'Data module' pane on the left shows the dataset structure, including columns like Row Id, Tenure, Emp Age, Employee\_count, Employee\_Name, MarriedID, MaritalStatusID, GenderID, EmpStatusID, and DeptID. The 'Properties' pane on the right is also visible.

Tenure	Emp Age	Employee_count	Employee_Name	MarriedID	MaritalStatusID
8	36	Adinolfi, Wilson K	Adinolfi, Wilson K	0	0
1	44	Ait Sidi, Karthikeyan	Ait Sidi, Karthikeyan	1	1
1	31	Akinkuolie, Sarah	Akinkuolie, Sarah	1	1
11	31	Alagbe,Trina	Alagbe,Trina	1	1
5	30	Anderson, Carol	Anderson, Carol	0	2
7	42	Anderson, Linda	Anderson, Linda	0	0
5	40	Andreola, Colby	Andreola, Colby	0	0
6	36	Athwal, Sam	Athwal, Sam	0	4
10	49	Bachiochi, Linda	Bachiochi, Linda	0	0
4	31	Bacong, Alejandro	Bacong, Alejandro	0	2

Date of hired column is split into Year\_hired column and Month\_hired. Age column is created on basis of DOB and Present date. Terminated\_date is split into Year\_terminated and Month\_terminated.

The screenshot shows the 'Edit calculation' window in IBM Cognos Analytics. The 'Name' field is set to 'Emp Age'. The 'Expression' field contains the formula: `1 _years_between (2019-12-31, DOB )`. The 'Components' panel on the left shows a tree view of the 'HRDataset\_v14.csv' data source, with fields like Row Id, Tenure, Emp Age, Employee\_count, Employee\_Name, MarriedID, MaritalStatusID, GenderID, EmpStatusID, and DeptID. The 'Preview' section at the bottom shows the calculated values for 'Emp Age' for two rows: 36 and 44. The execution time is 1.465 seconds.

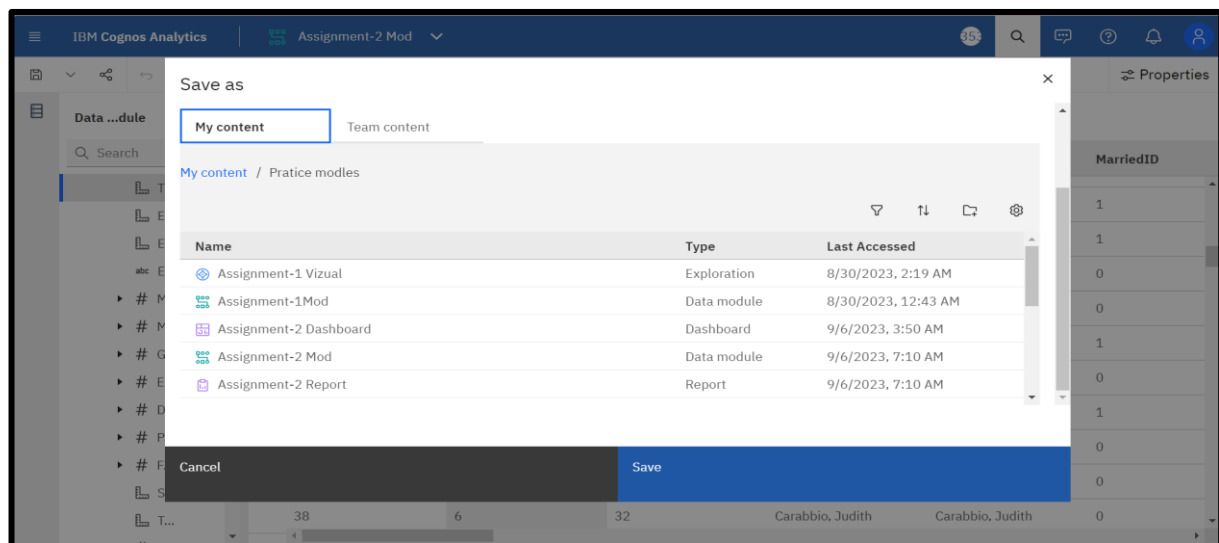
The screenshot shows the 'Data ...dule' window in IBM Cognos Analytics. The 'Grid' view displays a table with the following columns: DateofHire, Year\_hired, Month\_hired, DateofTermination, Terminated\_year, and Terminated\_Month. The table contains 10 rows of data.

DateofHire	Year_hired	Month_hired	DateofTermination	Terminated_year	Terminated_Month
2011-07-05	2011	7	Null	Null	Null
2015-03-30	2015	3	2016-06-16	2016	6
2011-07-05	2011	7	2012-09-24	2012	9
2008-01-07	2008	1	Null	Null	Null
2011-07-11	2011	7	2016-09-06	2016	9
2012-01-09	2012	1	Null	Null	Null
2014-11-10	2014	11	Null	Null	Null
2013-09-30	2013	9	Null	Null	Null
2009-07-06	2009	7	Null	Null	Null
2015-01-05	2015	1	Null	Null	Null

The screenshot shows the 'Edit calculation' window in IBM Cognos Analytics. The 'Name' field is set to 'Tenure'. The 'Expression' field contains a complex formula: `1 case 2 when Termd = 1 then 3 _years_between( DateofTermination , DateofHire) 4 else 5 _years_between(2019-12-31, DateofHire) 6 end 7`. The 'Components' panel on the left shows the same tree view as the first screenshot. The 'Preview' section at the bottom shows the calculated values for 'Tenure' for two rows: 8 and 1. The execution time is 1.094 seconds.

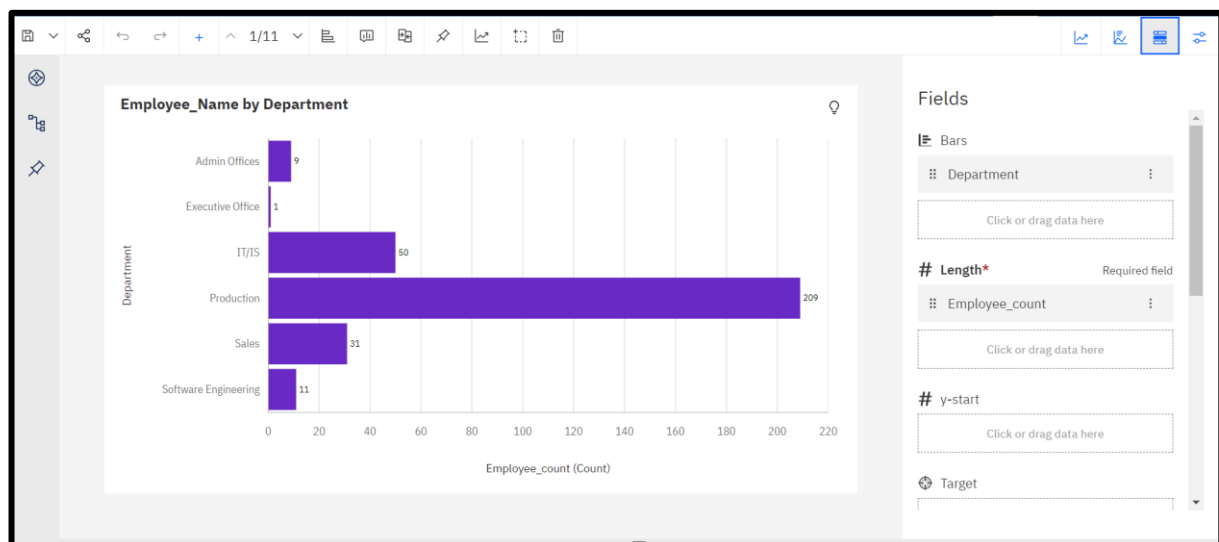
Tenure	Termd	DateofTermination	DateofHire
8	0	Null	2011-07-05
1	1	2016-06-16	2015-03-30

### 3. Create A Data Module:

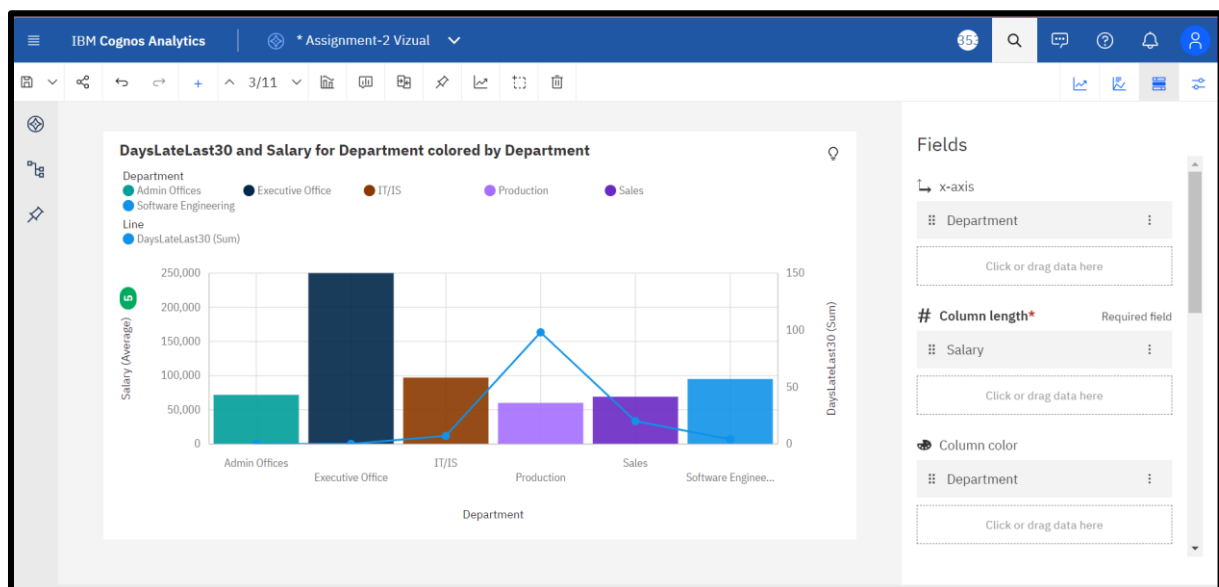


### 4. Explore And Visualize The Dataset:

#### 1. Bar Graph



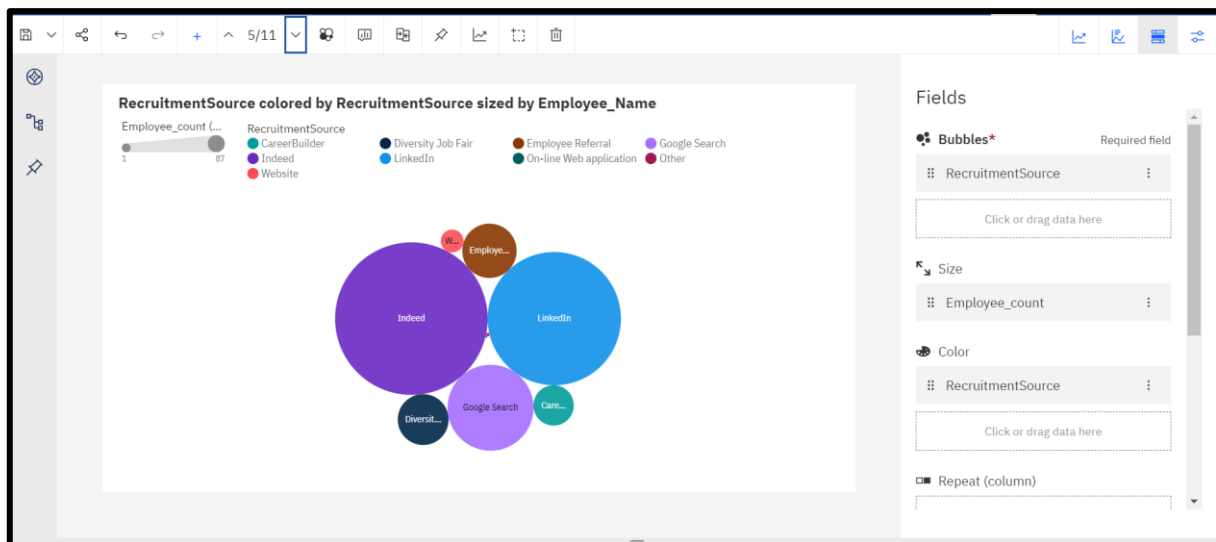
#### 2. Line Column Chart:



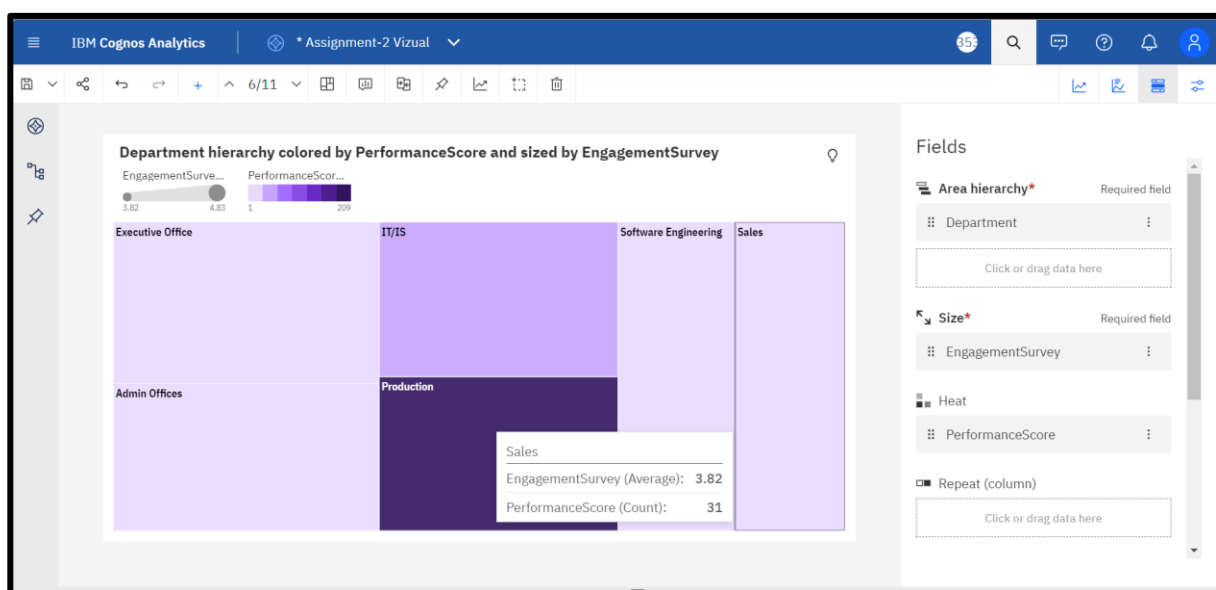
### 3. Stacked Column chart:



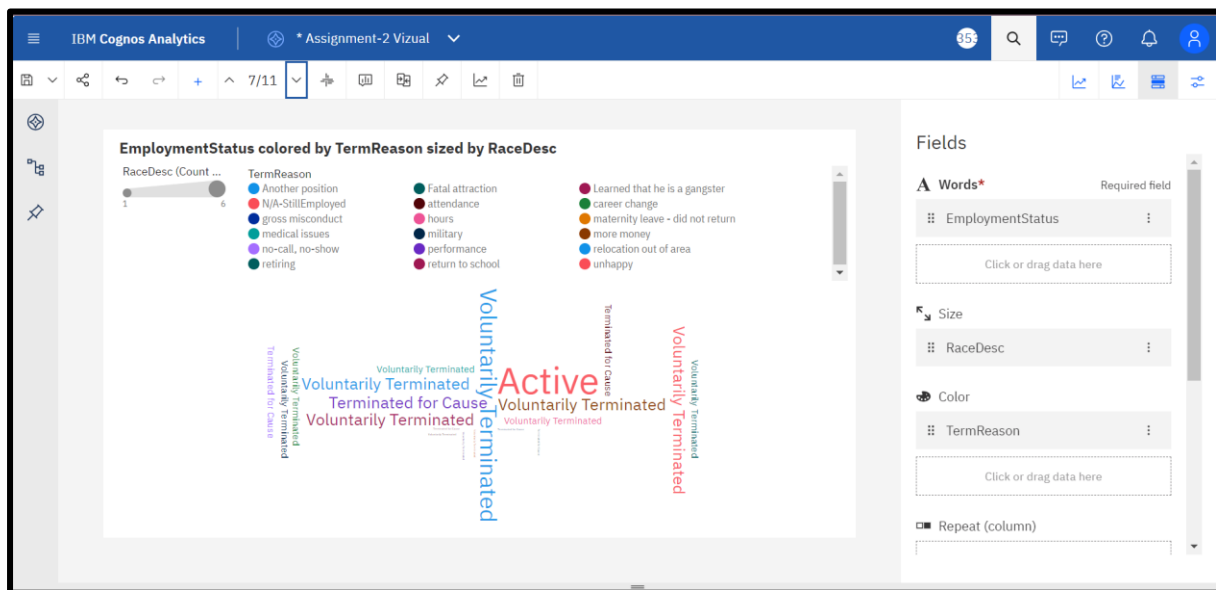
### 4. Packed Bubble Chart:



### 5. Tree Map Chart:



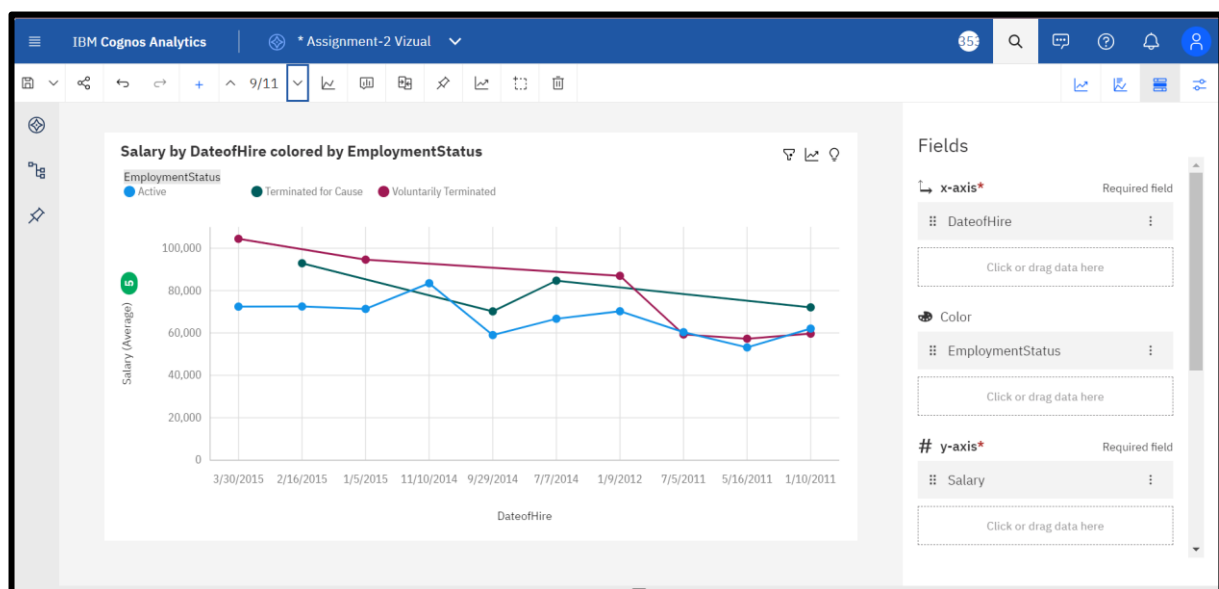
## 6. World Cloud:



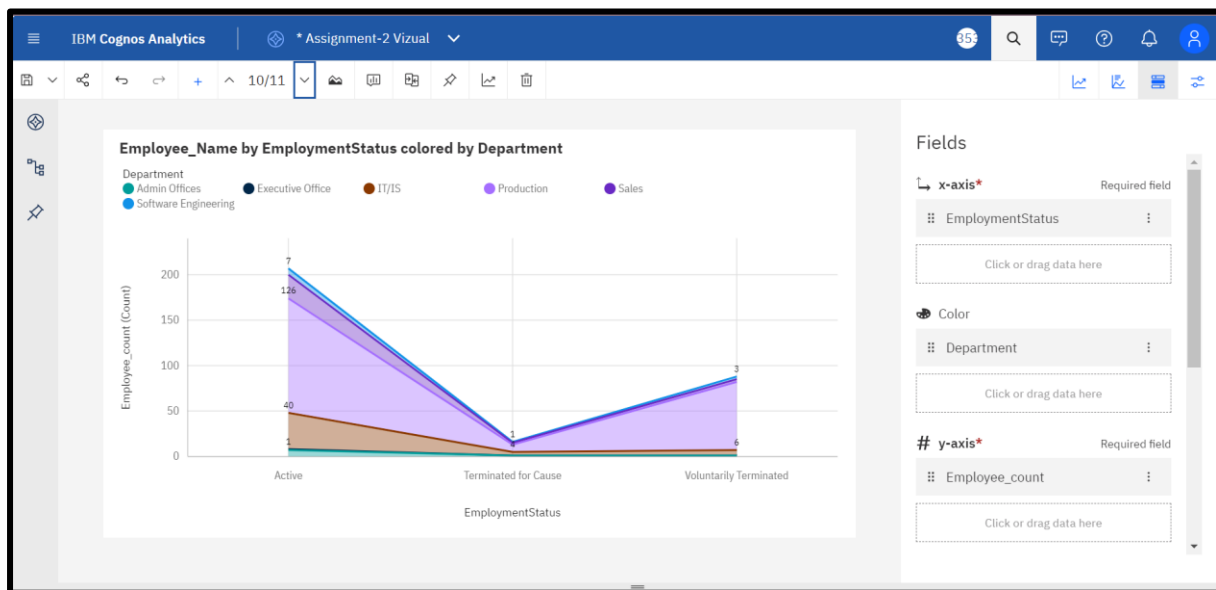
## 7. Column Chart:



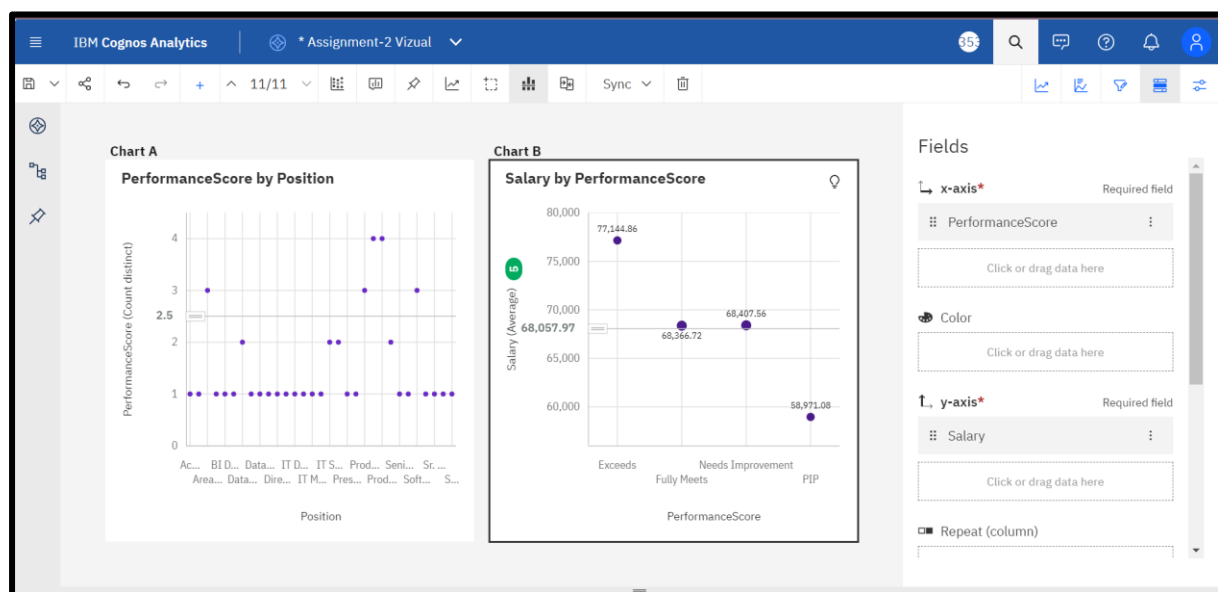
## 8. Line Chart:



## 9. Area Chart:

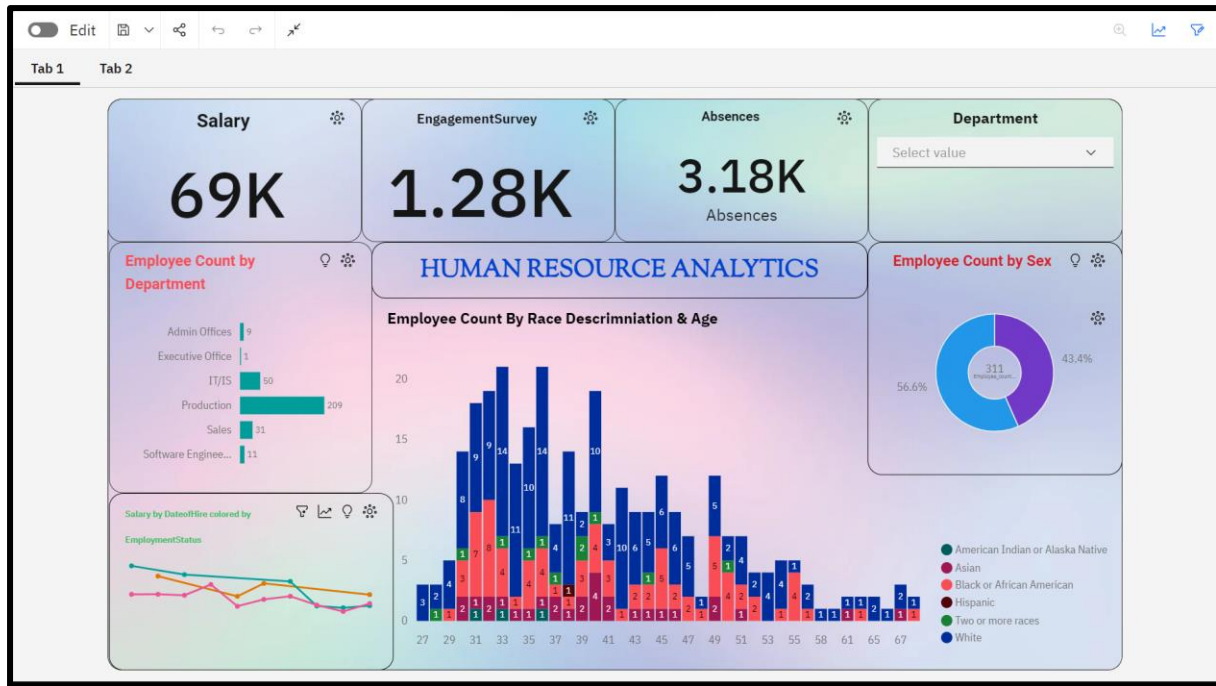


## 10. Scatter Plot:



## 5. Creating A Dashboards With The Dataset:

Responsive Dashboard created by using Department as filter.



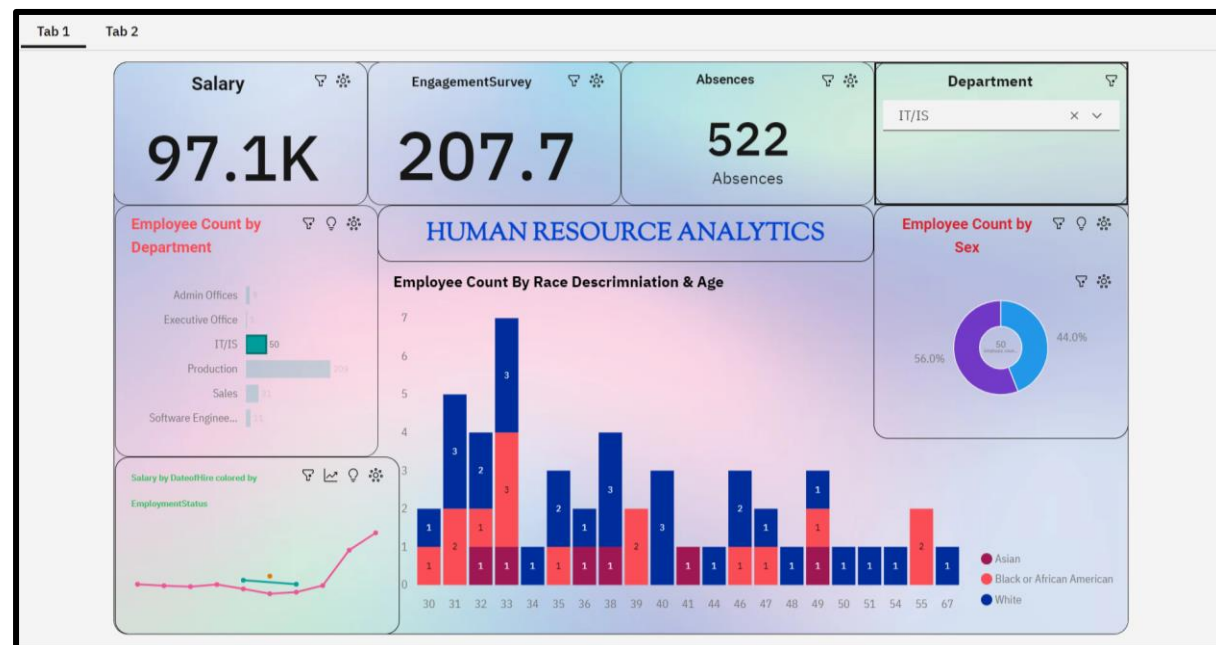
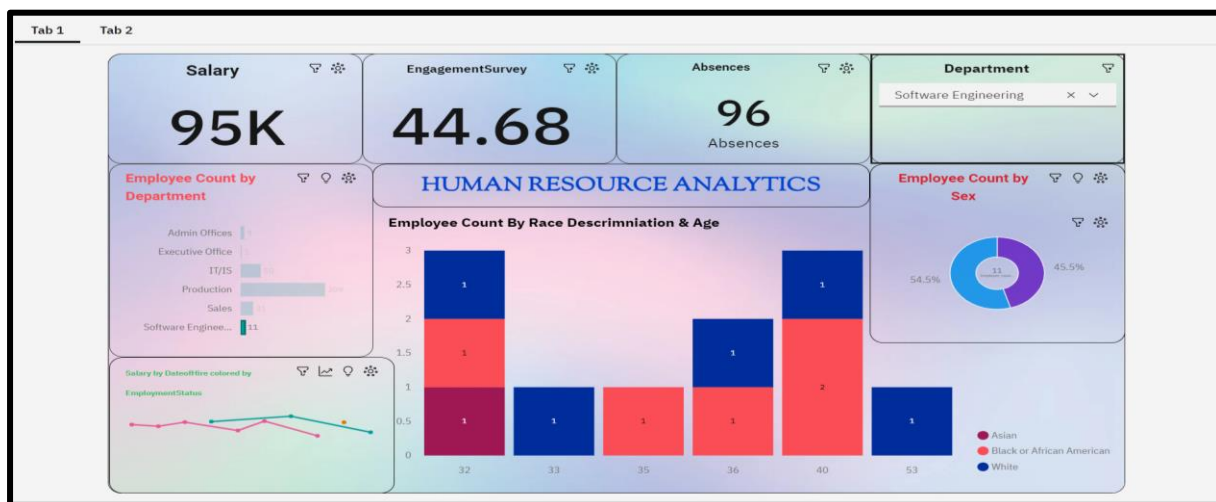
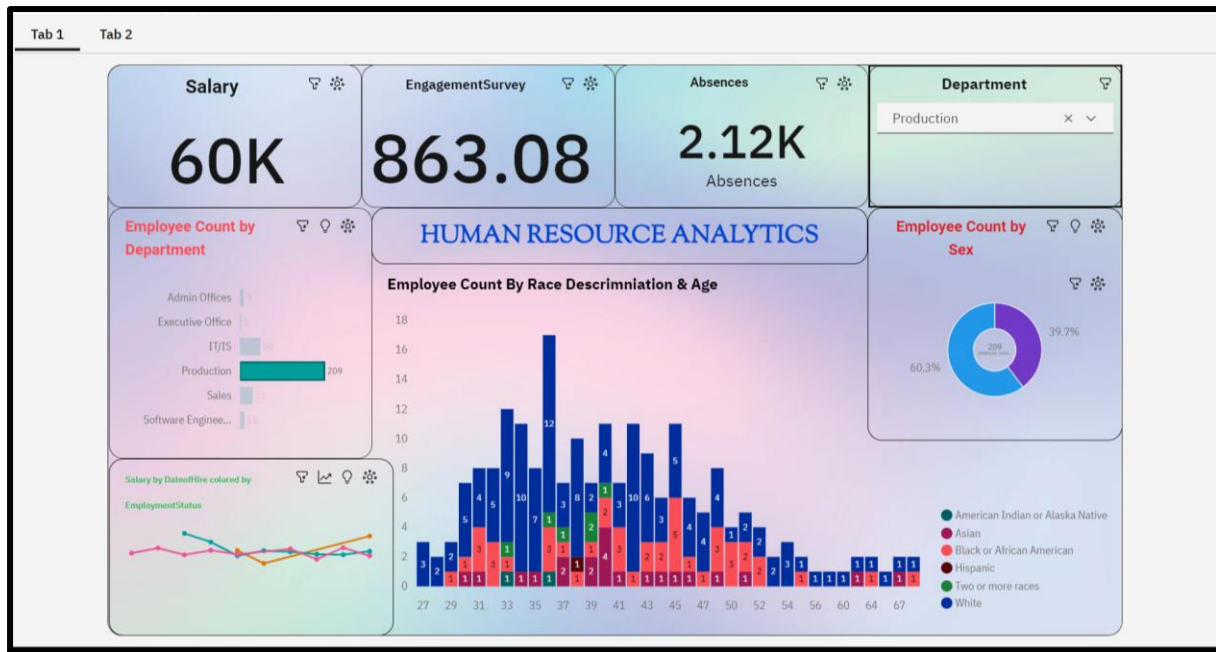
The dashboard is assisted with the KPI visuals with attributes Salary, Engagement Survey, Absences.

And with a Charts as follows:

1. Employee Count By Department(Bar Chart)
2. Employee Count By Gender(Pi-chart)
3. Employee Count By Race Discriminations & Age (Stacked column)
4. Salary By Date of Hire and Employment Status(Line chart)

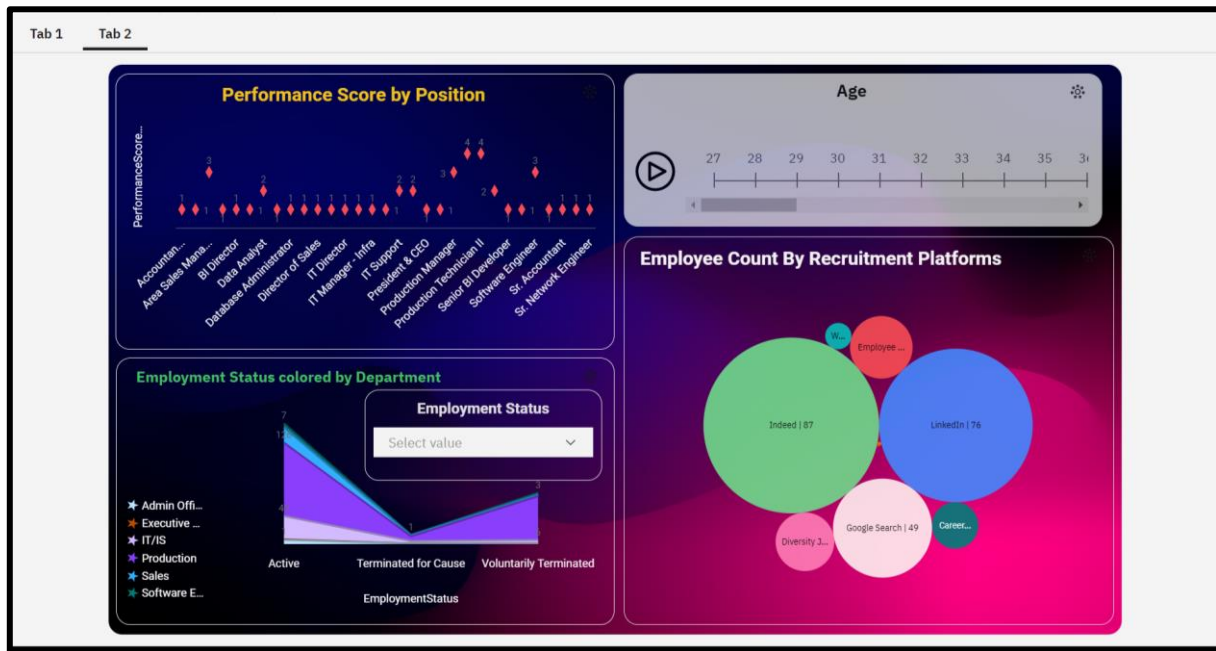








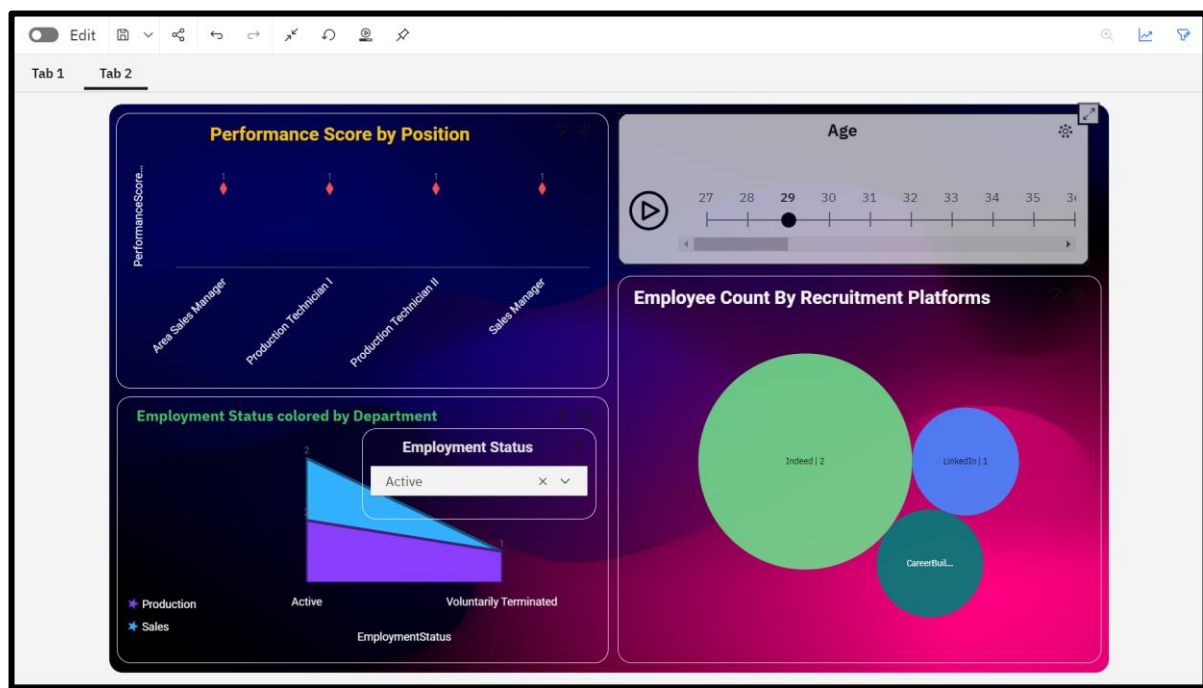
## Dashboard-2

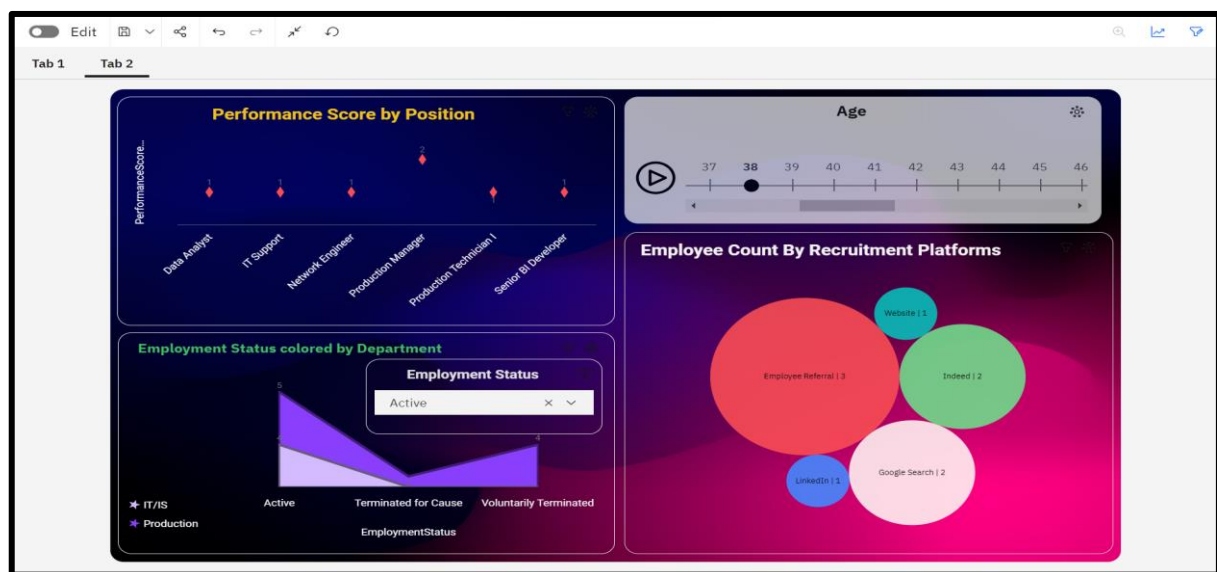
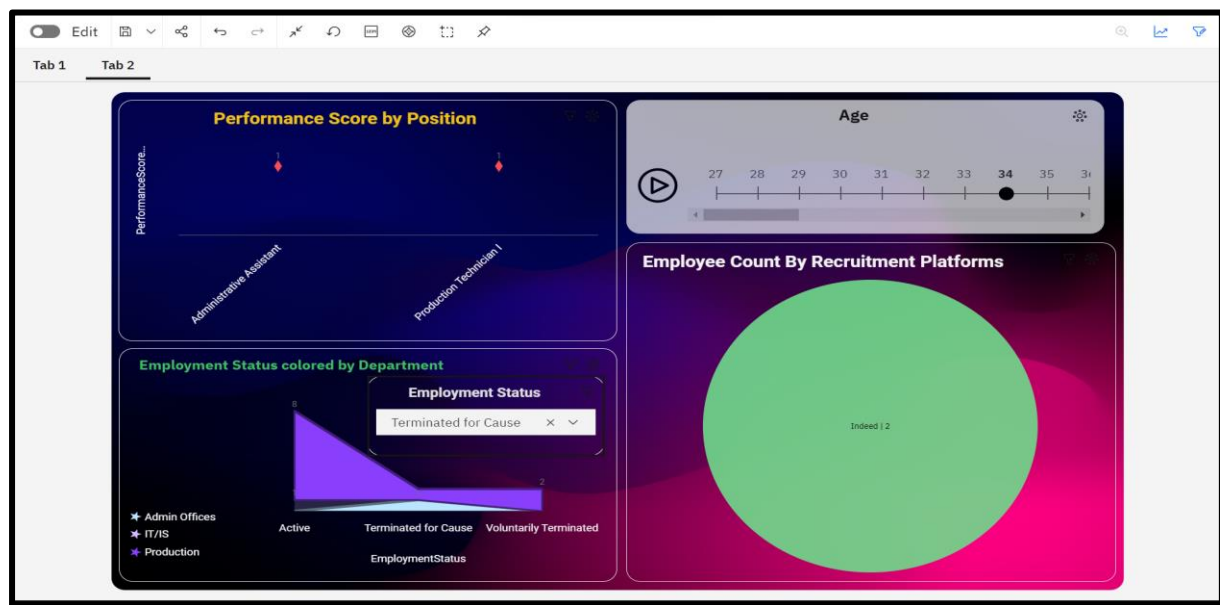
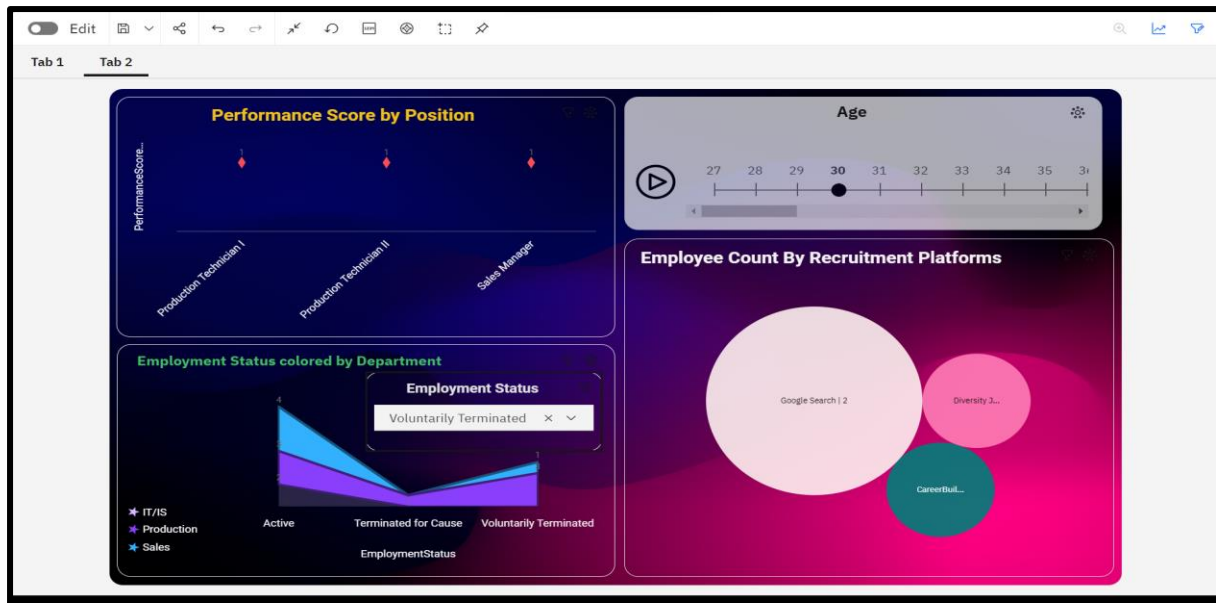


The dashboard is assisted with the charts that operates with filters Age and Employment Status

And with a Charts as follows:

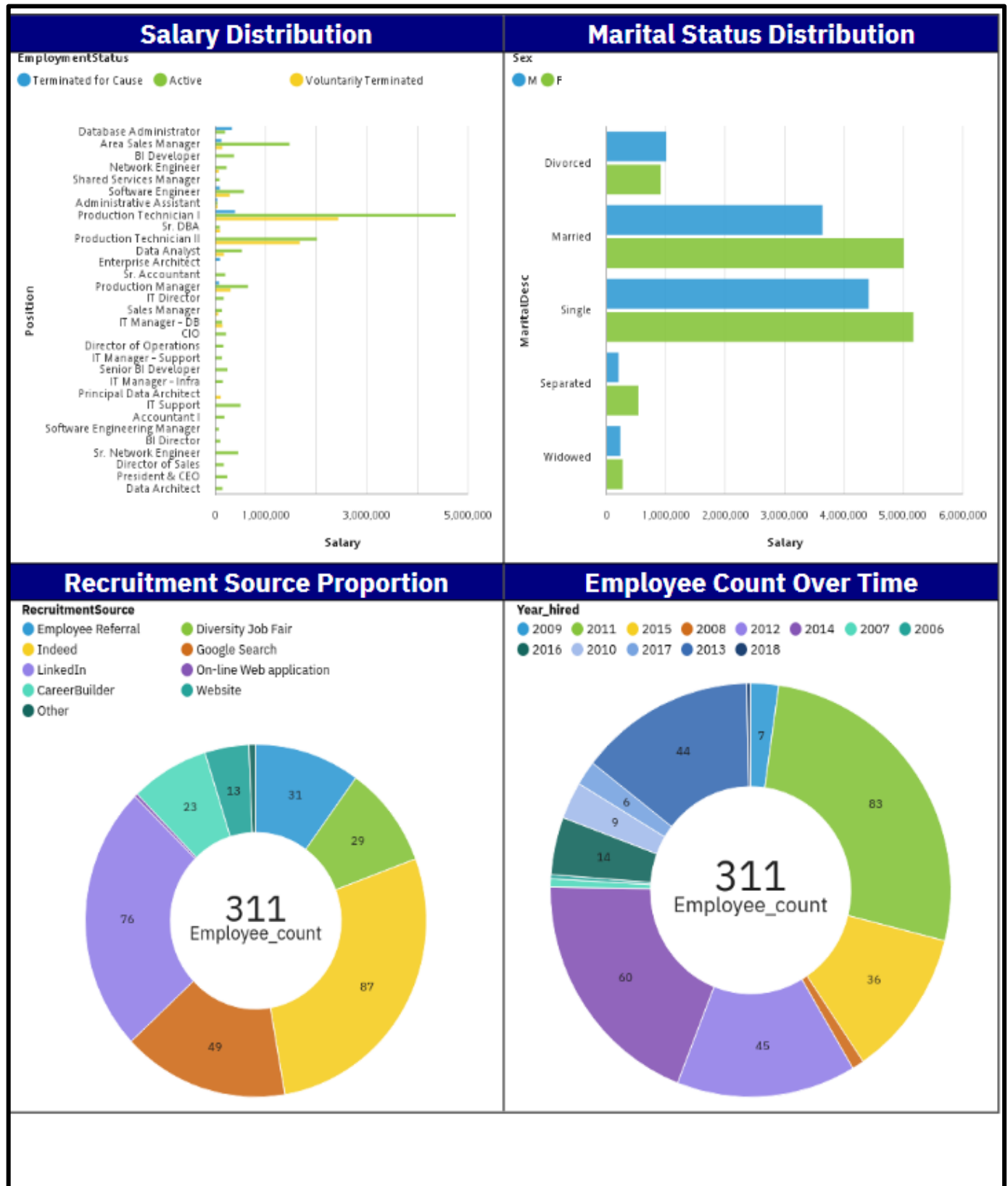
1. Employee Count By Recruitment platform(Hierarchy Bubble)
2. Employee Status By Department(Area chart)
3. Performance Score By Position (Point graph)





## 6. Creating a Report By the dataset:

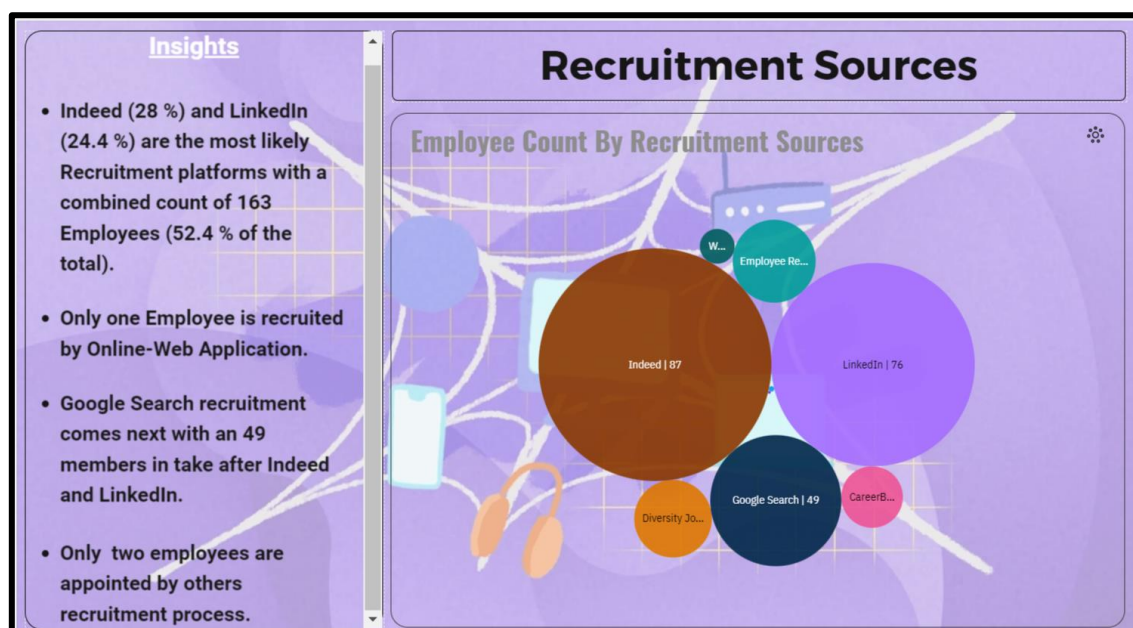
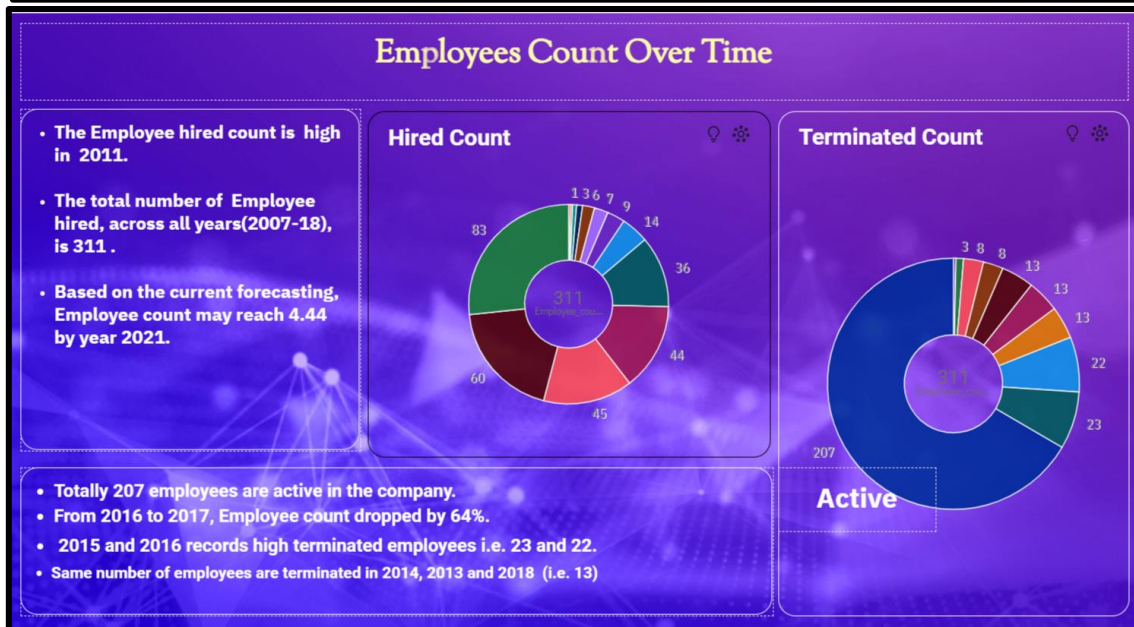
### Report-1:





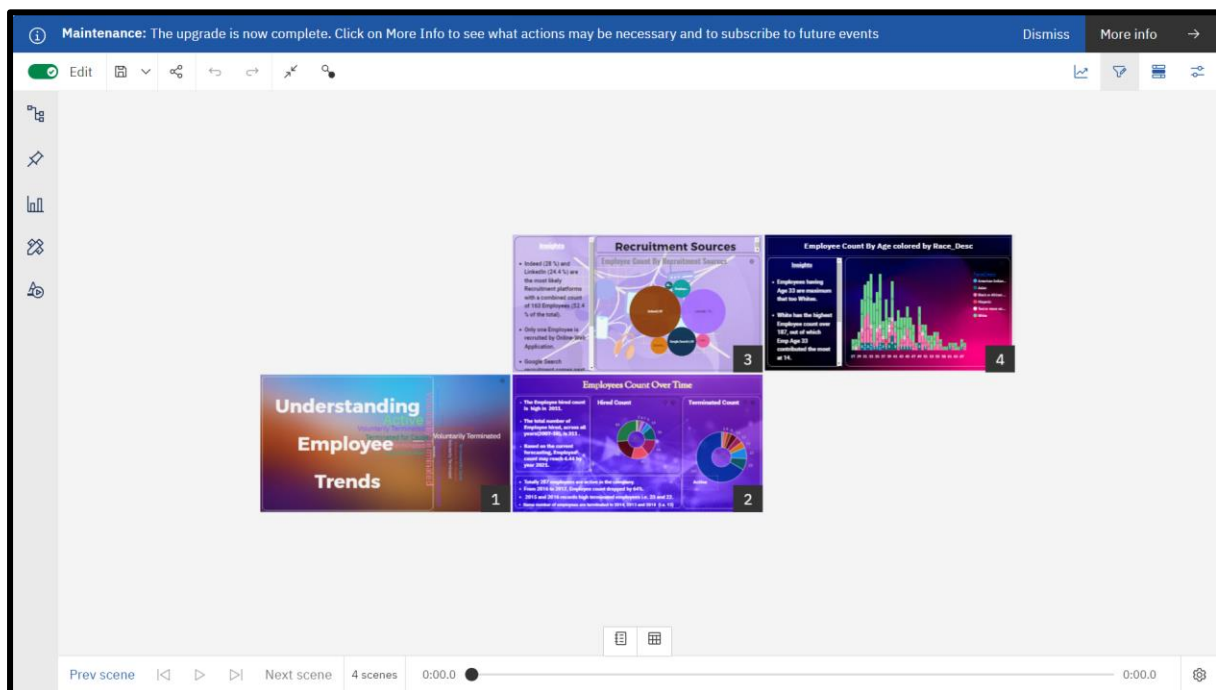
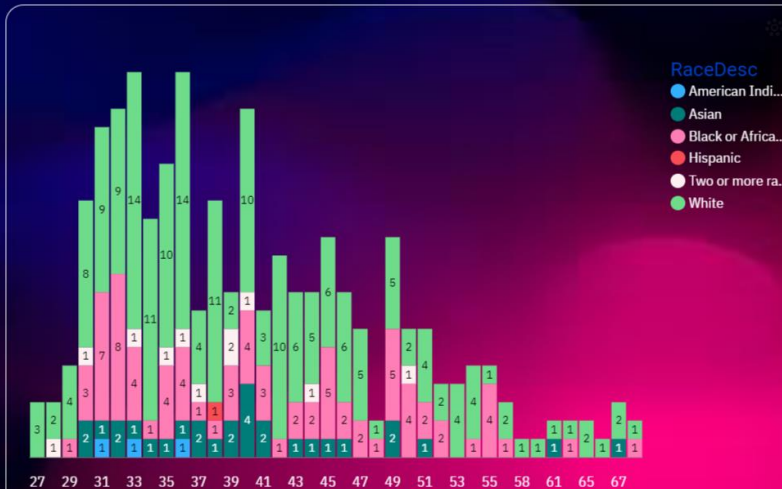


## A word cloud visualization of the text "Understanding Employee Trends". The words are arranged in a circular pattern against a dark blue background. The words "Understanding", "Employee", and "Trends" are the largest and most prominent. Other words include "Active", "Terminated for Cause", "Voluntarily Terminated", and "Terminated". The colors of the words vary, including shades of blue, green, yellow, and red.



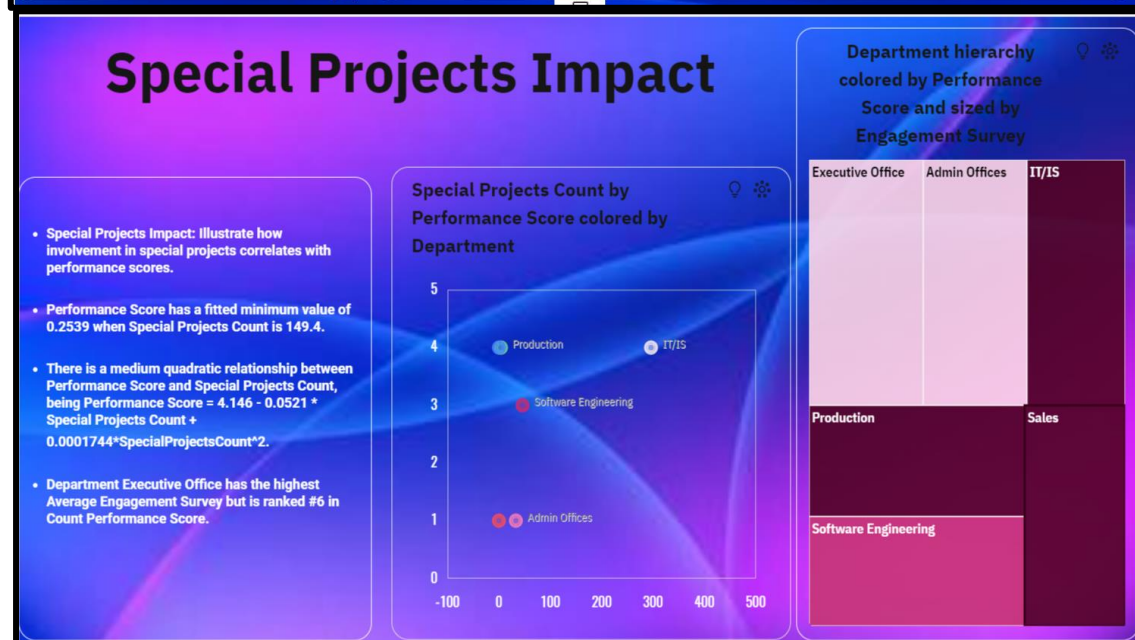
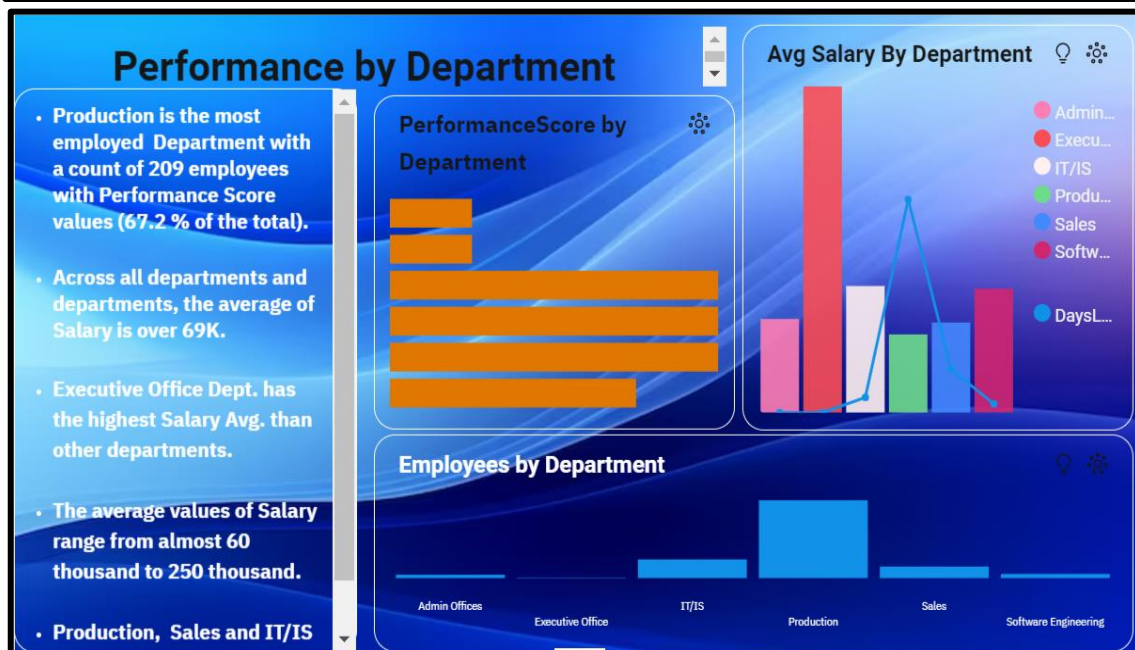
## Employee Count By Age colored by Race\_Desc

- Employees having Age 33 are maximum that too Whites.
- White has the highest Employee count over 187, out of which Emp Age 33 contributed the most at 14.
- 33 years (6.8 %), 36 years (6.8 %), 32 years (6.1 %), 40 years (6.1 %), and 31 years (5.8 %) are present in the company.





## Story- 2:

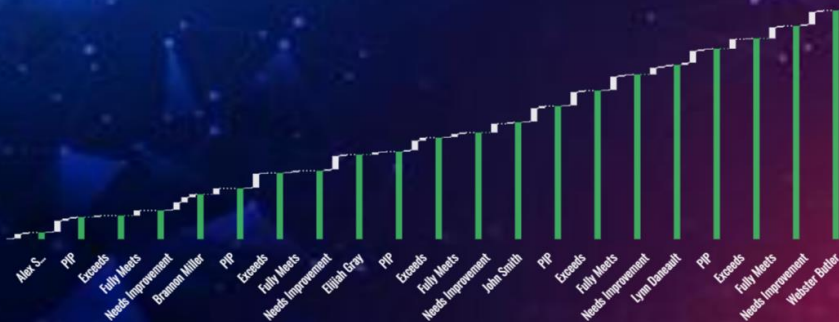




## Managerial Influence on Departmental Performance

Manager Name for Employee count By Performance Score

Column values  
● Increase ● Decrease ● Total



- Kissy Sullivan has a higher Employees from Performance Score Fully Meets than Brannon Miller.
- Manager Brannon Miller has the highest Employees due to Performance Score Fully Meets.
- Performance Score Fully Meets has the highest Employees at 243, out of which Manager David Stanley contributed the most at 19.

## Managerial Influence on Departmental Performance

- Brannon Miller (7.1 %), Kissy Sullivan (7.1 %), Kelley Spirea (7.1 %), Michael Albert (7.1 %), and Elijah Gray (7.1 %) are the most frequently occurring categories of Manager with a combined count of 110 items with Employees (35.4 % of the total) .
- Fully Meets is the most frequently occurring category of Performance Score with a count of 243 items with Employees (78.1 % of the total).
- From 2014-12-01 to 2015-01-05, Simon Roup's Employees increased by 300%

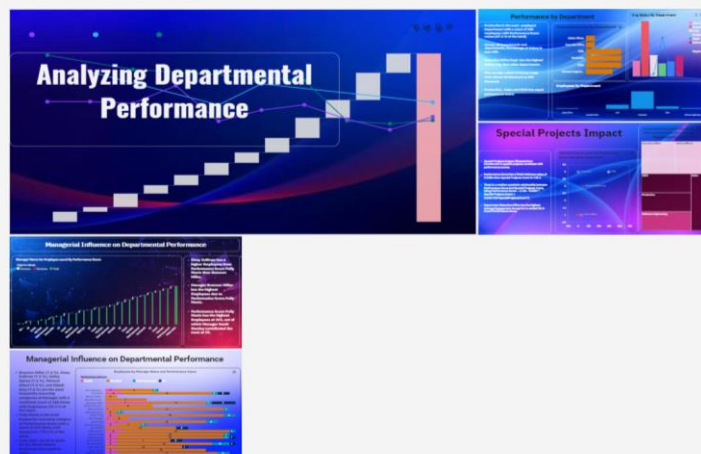
Employees by Manager Name and Performance Score

PerformanceScore

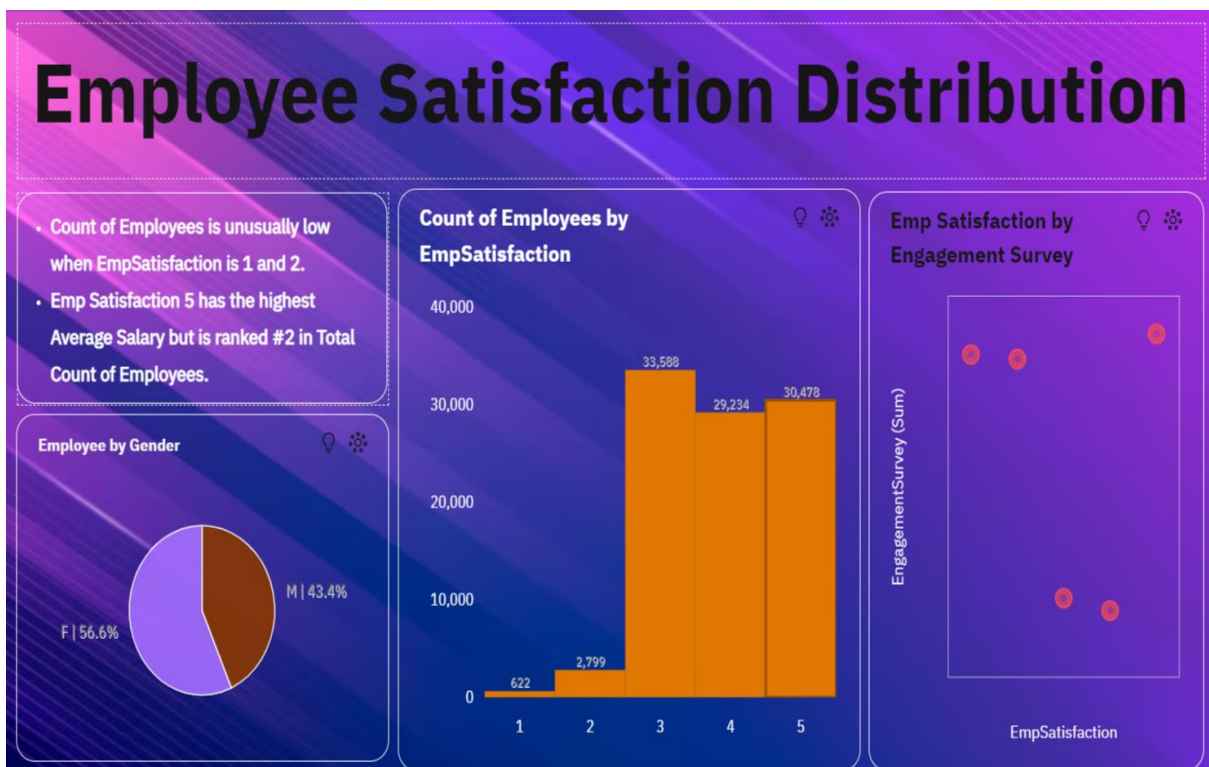
● Exceeds ● Fully Meets ● Needs Improvement ● PIP



### Analyzing Departmental Performance



## Story-3:



## Engagement Survey Correlation

- For EngagementSurvey, the most significant value of Department is Production, whose respective EngagementSurvey values add up to 863.1, or 67.5 % of the total.
- For EngagementSurvey, the most significant values of EmpSatisfaction are 3, 5, and 4, whose respective EngagementSurvey values add up to over a thousand, or 97.6 % of the total.

Emp Satisfaction by Engagement Survey correlated with department and Position of emp

Department

Admin Offices

Executive Office

IT/IS

Production

Sales

Software Engineering

EngagementSurvey (Sum)



EmpSatisfaction