ASSIGNMENT - 2
DATA ANALYTICS
EXPLORATION AND VISUALIZATION OF DATASET

NAME:

ASHVINTH.I

REG NO:

611020104003

QUESTION:

Upload the dataset to cognos Analytics,prepare the data,explore and Create Interactive Dashboard,report and story.

PROBLEM DESCRIPTION:

Dataset:50_Startups.csv https:www.Kaggle.com/datasets/rhuebher/human-resource-data-set

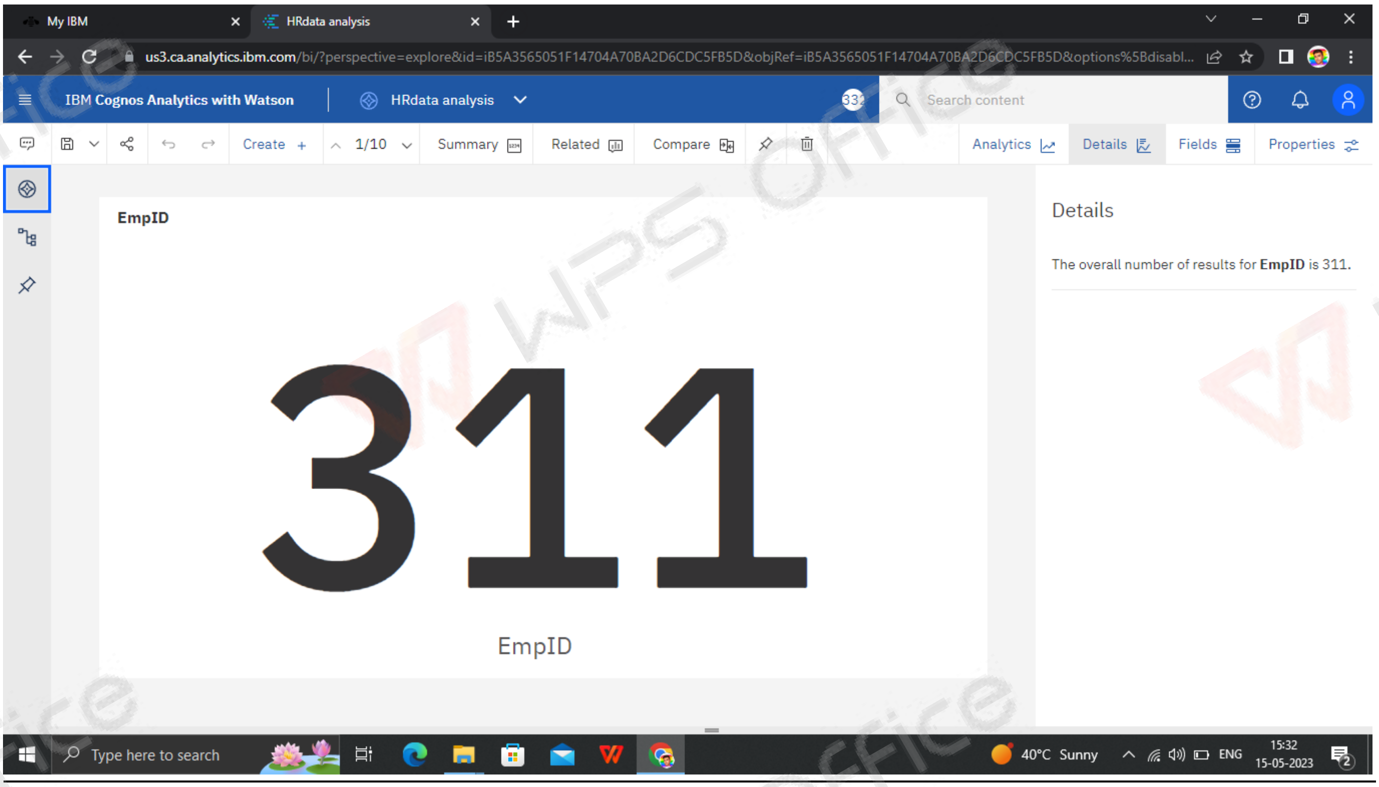
About the 50 startups dataset

HR data be hard to come by,and HR professional generally lag behind with respect respective analytics and data visualization competency . We use the data set to teach HR students how to use and analysis in the data in cognos- a data visualization tool that's easy to learn.

This version provides a variety of features that are useful to both data visualization AND creating machine learning/predictive analysis model. We are working on expanding the data set even further by generating even more records and a few additional features we will be keeping these as one file/one data set for now. There is a possibility for creating a second file perhaps down the road where you can join the files together to practice IBMDB2/joins.etc.

Note that this data set 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 professional how to work with data and analytics.

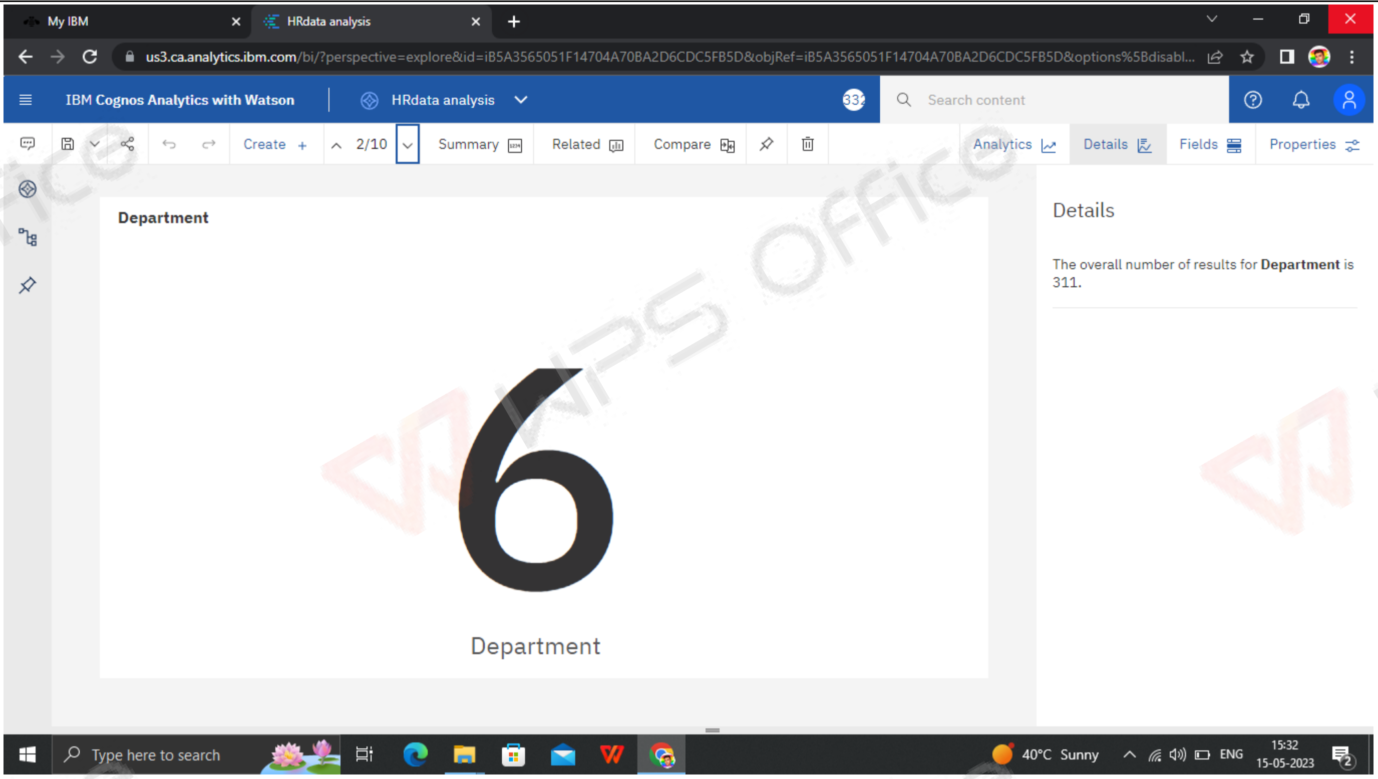
EXPLORATIONS



My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
1/10
Summary
Related
Compare
Analytics
Details
Fields
Properties
EmpID
311
EmpID
Type here to search
40°C Sunny
ENG
15:32
15-05-2023

Details

The overall number of results for **EmpID** is 311.


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
2/10
Summary
Related
Compare
Analytics
Details
Fields
Properties
Type here to search
40°C Sunny
ENG
15:32
15-05-2023

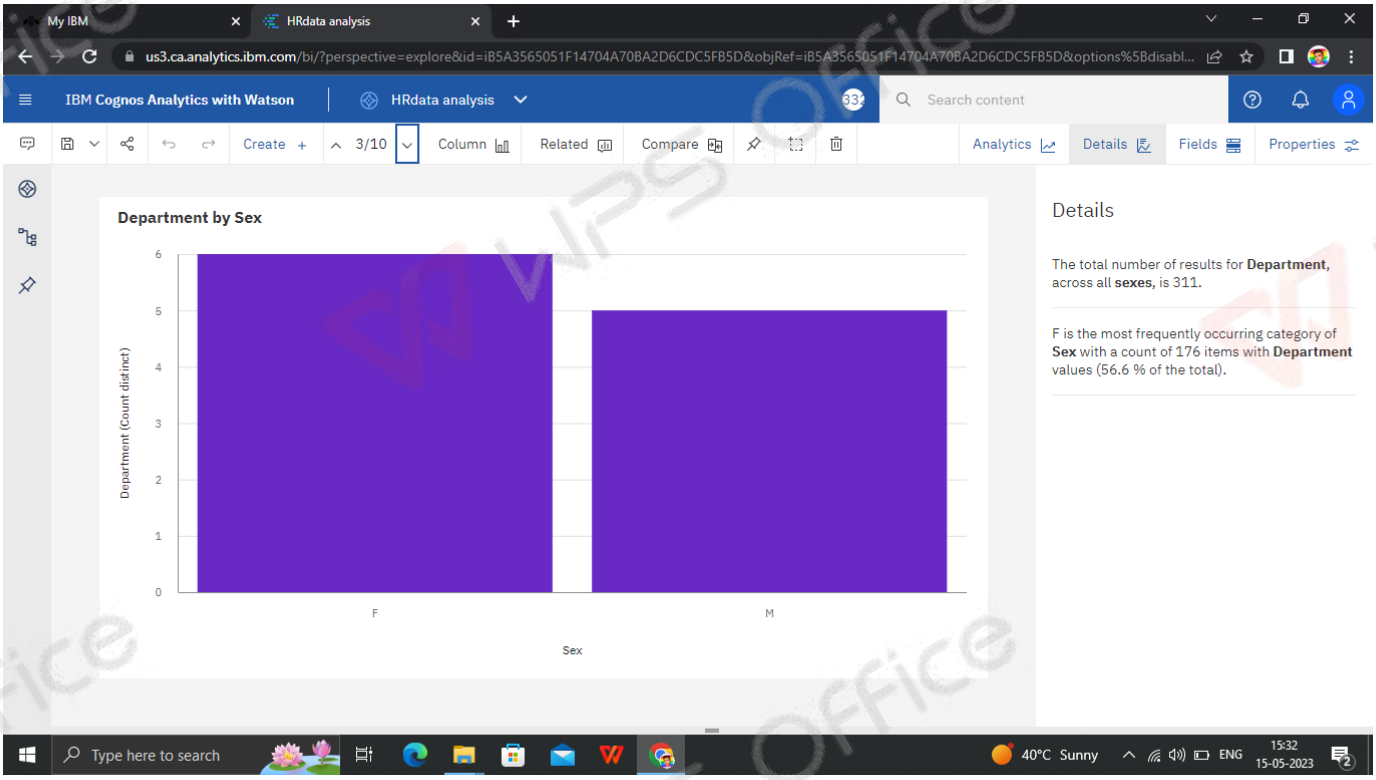
Department

6

Department

Details

The overall number of results for **Department** is 311.

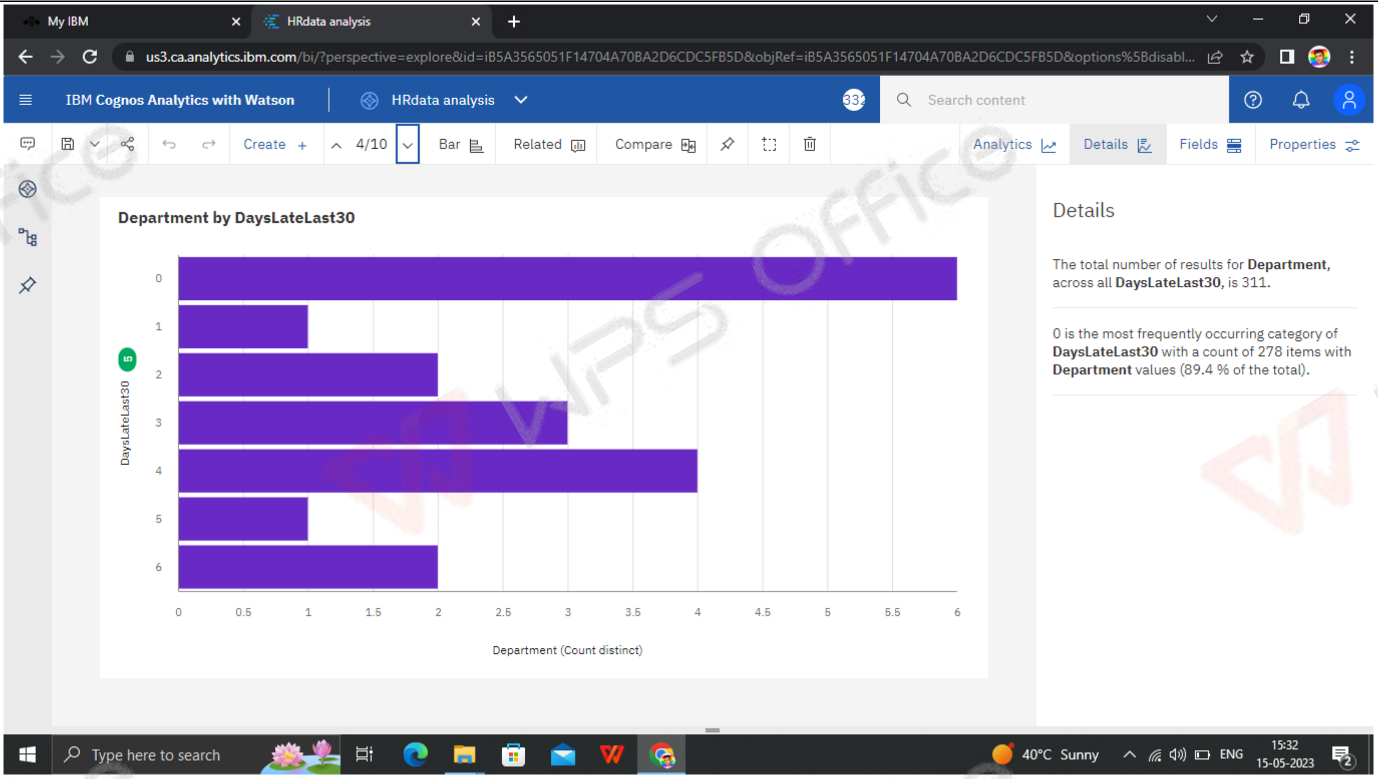

My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
3/10
Column
Related
Compare
Analytics
Details
Fields
Properties
Department (Count distinct)
6
5
4
3
2
1
0
F
M
Sex
Type here to search
40°C Sunny
ENG
15:32
15-05-2023

Department by Sex

Details

The total number of results for **Department**, across all **sexes**, is 311.

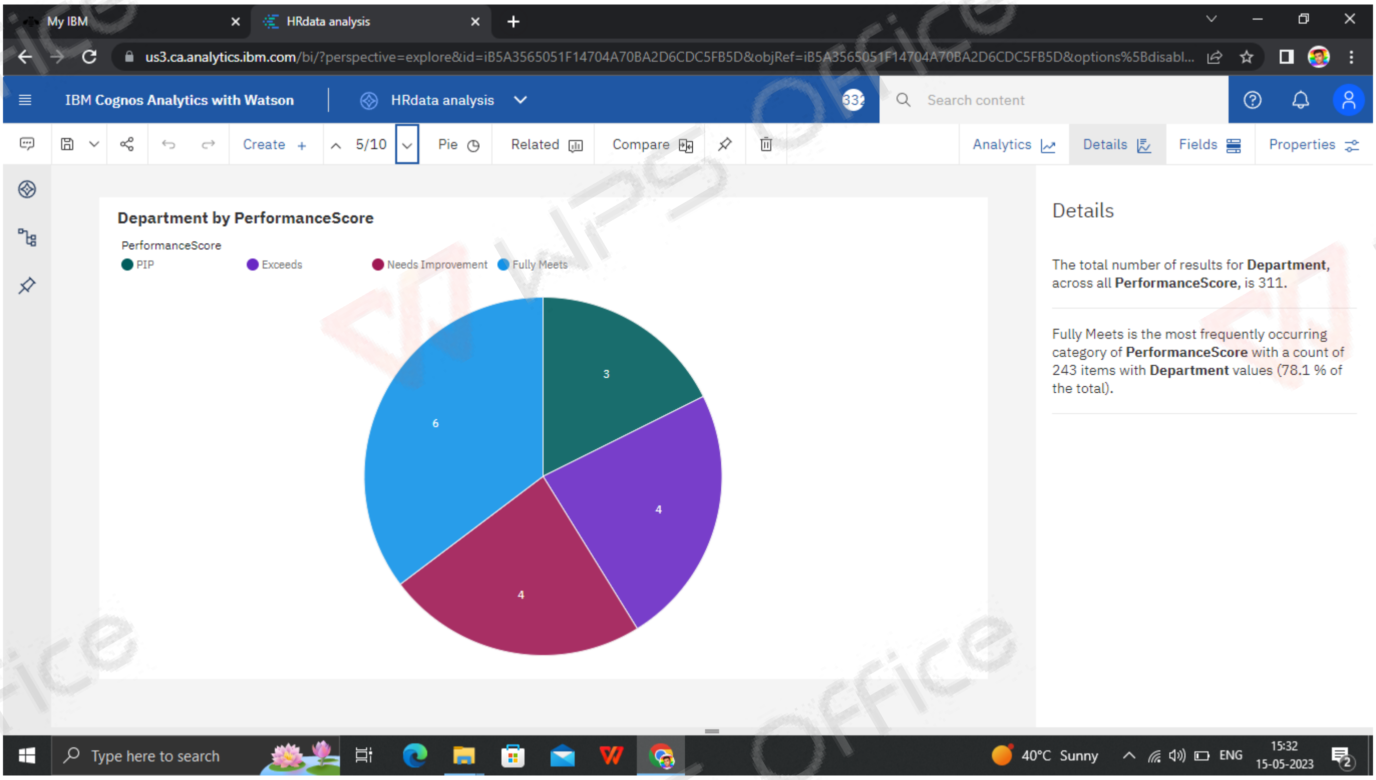
F is the most frequently occurring category of **Sex** with a count of 176 items with **Department** values (56.6 % of the total).


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create +
4/10
Bar
Related
Compare
Analytics
Details
Fields
Properties
Department by DaysLateLast30
DaysLateLast30
0
1
2
3
4
5
6
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
Department (Count distinct)
Type here to search
40°C Sunny
ENG
15:32
15-05-2023

Details

The total number of results for **Department**, across all **DaysLateLast30**, is 311.

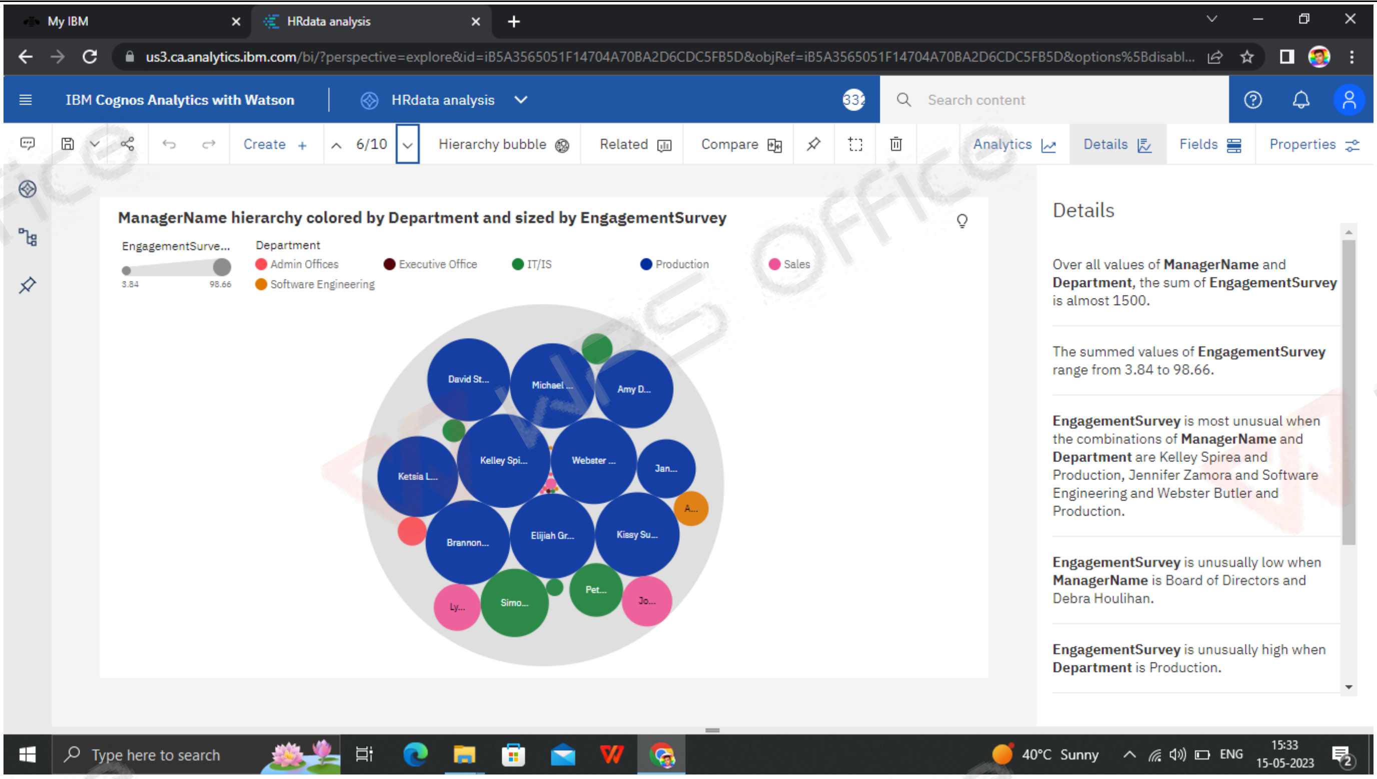
0 is the most frequently occurring category of **DaysLateLast30** with a count of 278 items with **Department** values (89.4 % of the total).


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create +
5/10
Pie
Related
Compare
Analytics
Details
Fields
Properties
Department by PerformanceScore
PerformanceScore
PIP
Exceeds
Needs Improvement
Fully Meets
3
4
4
6
Type here to search
40°C Sunny
ENG
15:32
15-05-2023

Details

The total number of results for **Department**, across all **PerformanceScore**, is 311.

Fully Meets is the most frequently occurring category of **PerformanceScore** with a count of 243 items with **Department** values (78.1 % of the total).


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
6/10
Hierarchy bubble
Related
Compare
Analytics
Details
Fields
Properties
ManagerName hierarchy colored by Department and sized by EngagementSurvey
EngagementSurve...
3.84
98.66
Department
Admin Offices
Executive Office
IT/IS
Production
Sales
Software Engineering
David St...
Michael ...
Amy D...
Kelley Spi...
Webster ...
Jan...
Ketsia L...
A...
Brannon...
Elijiah Gr...
Kissy Su...
Pet...
Ly...
Simo...
Jo...
Type here to search
40°C Sunny
ENG
15:33
15-05-2023

Details

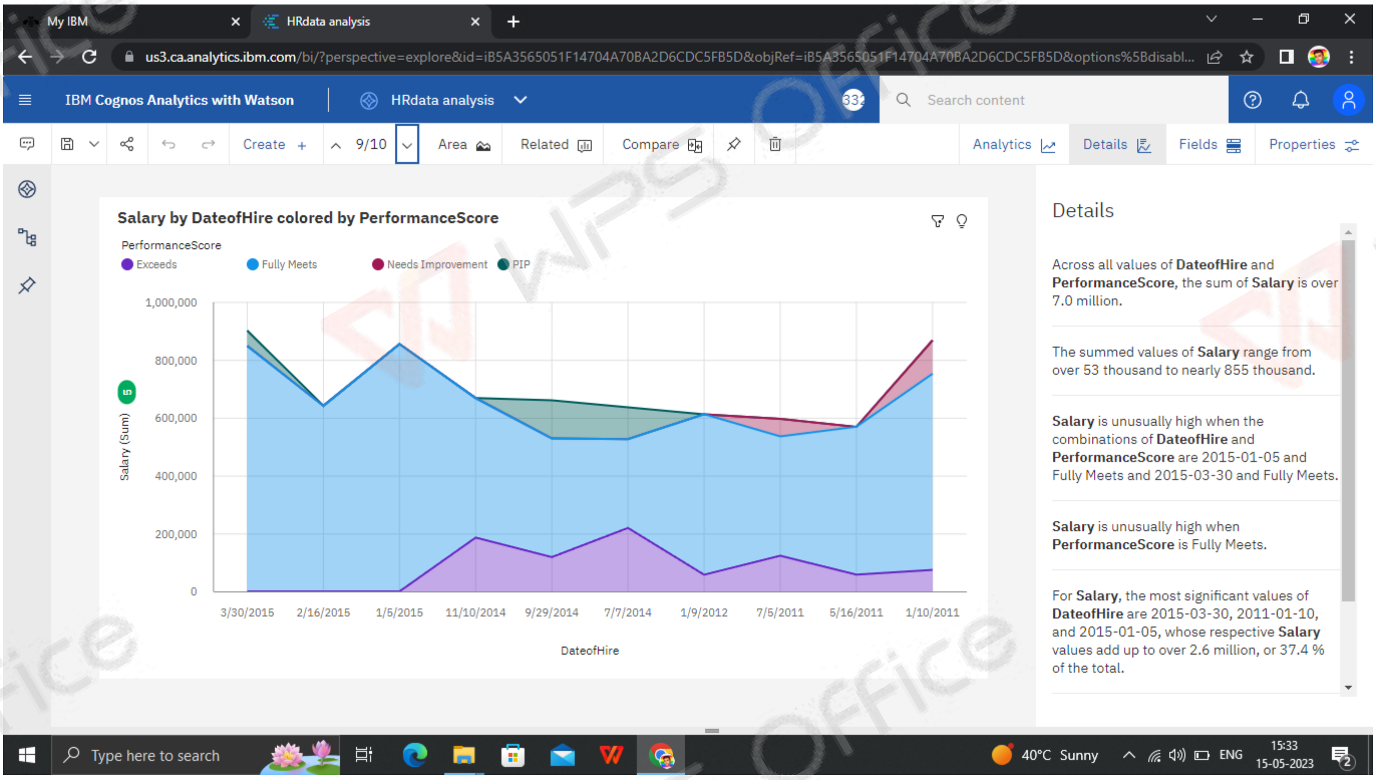
Over all values of **ManagerName** and **Department**, the sum of **EngagementSurvey** is almost 1500.

The summed values of **EngagementSurvey** range from 3.84 to 98.66.

EngagementSurvey is most unusual when the combinations of **ManagerName** and **Department** are Kelley Spirea and Production, Jennifer Zamora and Software Engineering and Webster Butler and Production.

EngagementSurvey is unusually low when **ManagerName** is Board of Directors and Debra Houlihan.

EngagementSurvey is unusually high when **Department** is Production.


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
9/10
Area
Related
Compare
Analytics
Details
Fields
Properties
Salary by DateofHire colored by PerformanceScore
PerformanceScore
Exceeds
Fully Meets
Needs Improvement
PIP
Salary (Sum)
1,000,000
800,000
600,000
400,000
200,000
0
3/30/2015
2/16/2015
1/5/2015
11/10/2014
9/29/2014
7/7/2014
1/9/2012
7/5/2011
5/16/2011
1/10/2011
DateofHire
Type here to search
40°C Sunny
ENG
15:33
15-05-2023

Details

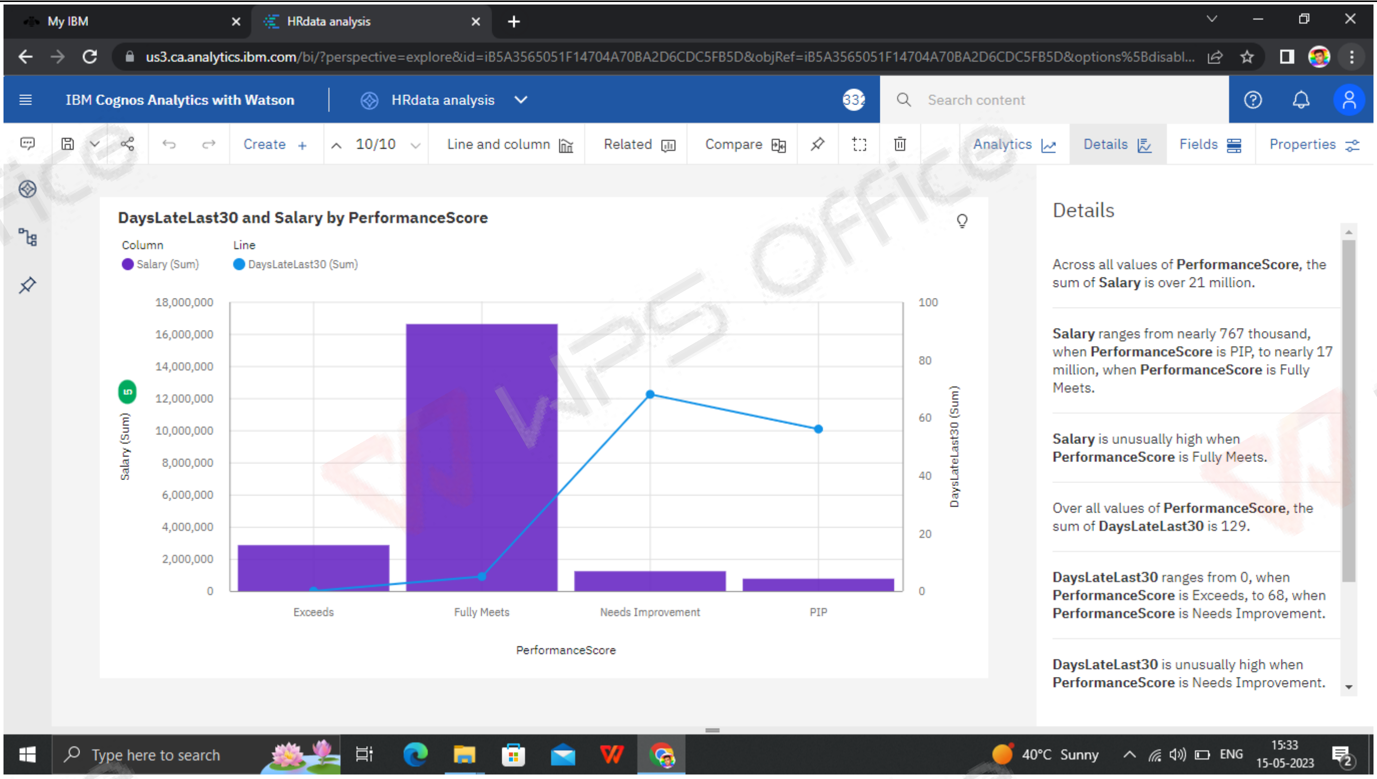
Across all values of **DateofHire** and **PerformanceScore**, the sum of **Salary** is over 7.0 million.

The summed values of **Salary** range from over 53 thousand to nearly 855 thousand.

Salary is unusually high when the combinations of **DateofHire** and **PerformanceScore** are 2015-01-05 and Fully Meets and 2015-03-30 and Fully Meets.

Salary is unusually high when **PerformanceScore** is Fully Meets.

For **Salary**, the most significant values of **DateofHire** are 2015-03-30, 2011-01-10, and 2015-01-05, whose respective **Salary** values add up to over 2.6 million, or 37.4 % of the total.


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
10/10
Line and column
Related
Compare
Analytics
Details
Fields
Properties
Column
● Salary (Sum)
Line
● DaysLateLast30 (Sum)
Salary (Sum)
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
DaysLateLast30 (Sum)
100
80
60
40
20
0
Exceeds
Fully Meets
Needs Improvement
PIP
PerformanceScore
Type here to search
40°C Sunny
ENG
15:33
15-05-2023

DaysLateLast30 and Salary by PerformanceScore

Details

Across all values of **PerformanceScore**, the sum of **Salary** is over 21 million.

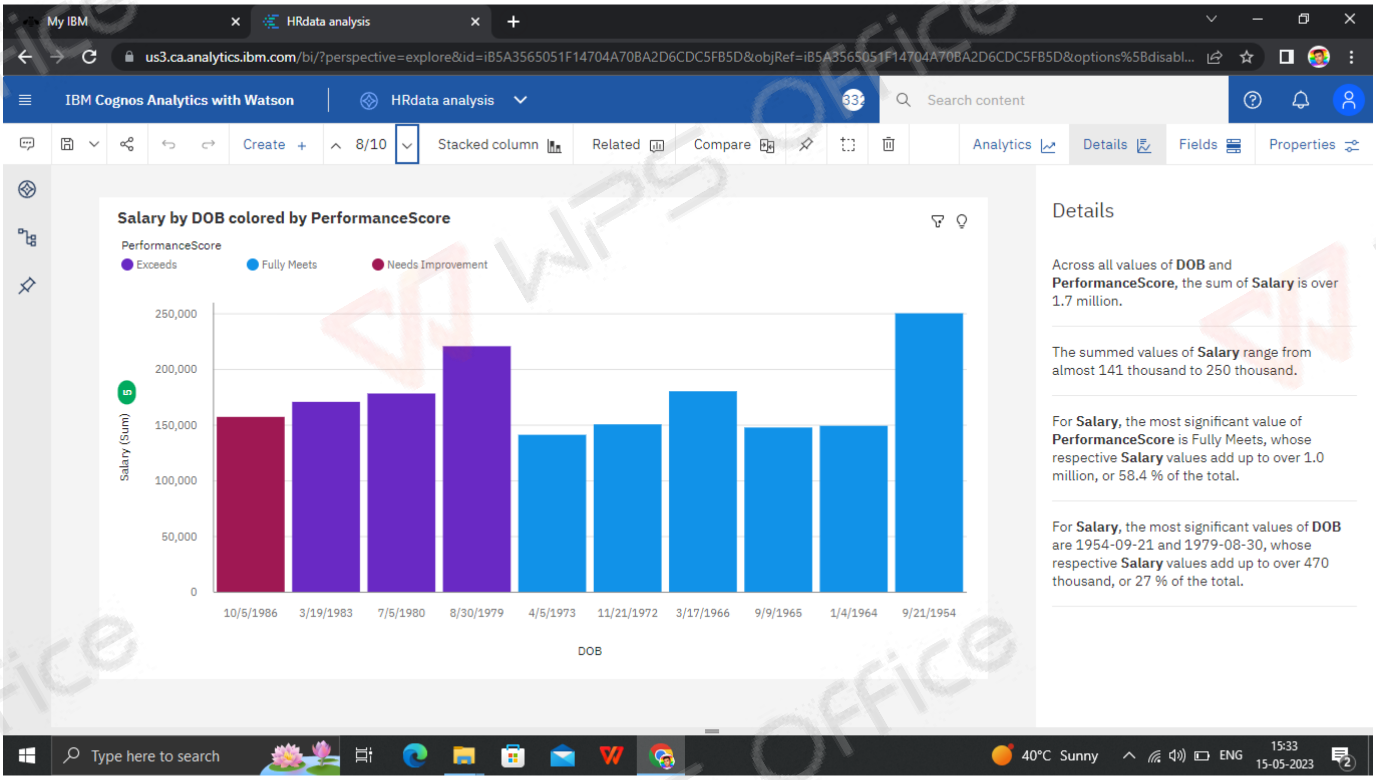
Salary ranges from nearly 767 thousand, when **PerformanceScore** is PIP, to nearly 17 million, when **PerformanceScore** is Fully Meets.

Salary is unusually high when **PerformanceScore** is Fully Meets.

Over all values of **PerformanceScore**, the sum of **DaysLateLast30** is 129.

DaysLateLast30 ranges from 0, when **PerformanceScore** is Exceeds, to 68, when **PerformanceScore** is Needs Improvement.

DaysLateLast30 is unusually high when **PerformanceScore** is Needs Improvement.


My IBM
HRdata analysis
us3.ca.analytics.ibm.com/bi/?perspective=explore&id=iB5A3565051F14704A70BA2D6CDC5FB5D&objRef=iB5A3565051F14704A70BA2D6CDC5FB5D&options%5Bdisabl...
IBM Cognos Analytics with Watson
HRdata analysis
Search content
Create
8/10
Stacked column
Related
Compare
Analytics
Details
Fields
Properties
PerformanceScore
● Exceeds
● Fully Meets
● Needs Improvement
Salary (Sum)
250,000
200,000
150,000
100,000
50,000
0
10/5/1986
3/19/1983
7/5/1980
8/30/1979
4/5/1973
11/21/1972
3/17/1966
9/9/1965
1/4/1964
9/21/1954
DOB
Type here to search
40°C Sunny
ENG
15:33
15-05-2023

Salary by DOB colored by PerformanceScore

Details

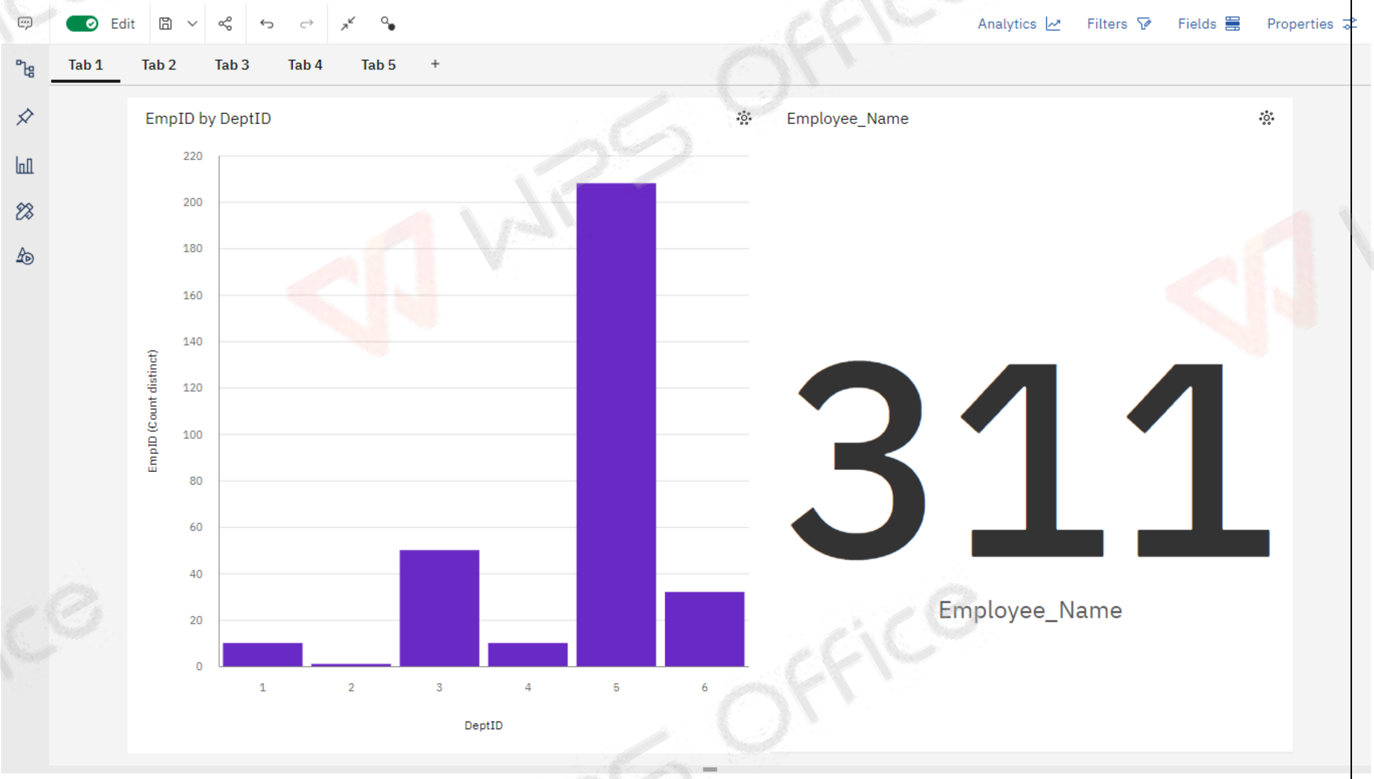
Across all values of **DOB** and **PerformanceScore**, the sum of **Salary** is over 1.7 million.

The summed values of **Salary** range from almost 141 thousand to 250 thousand.

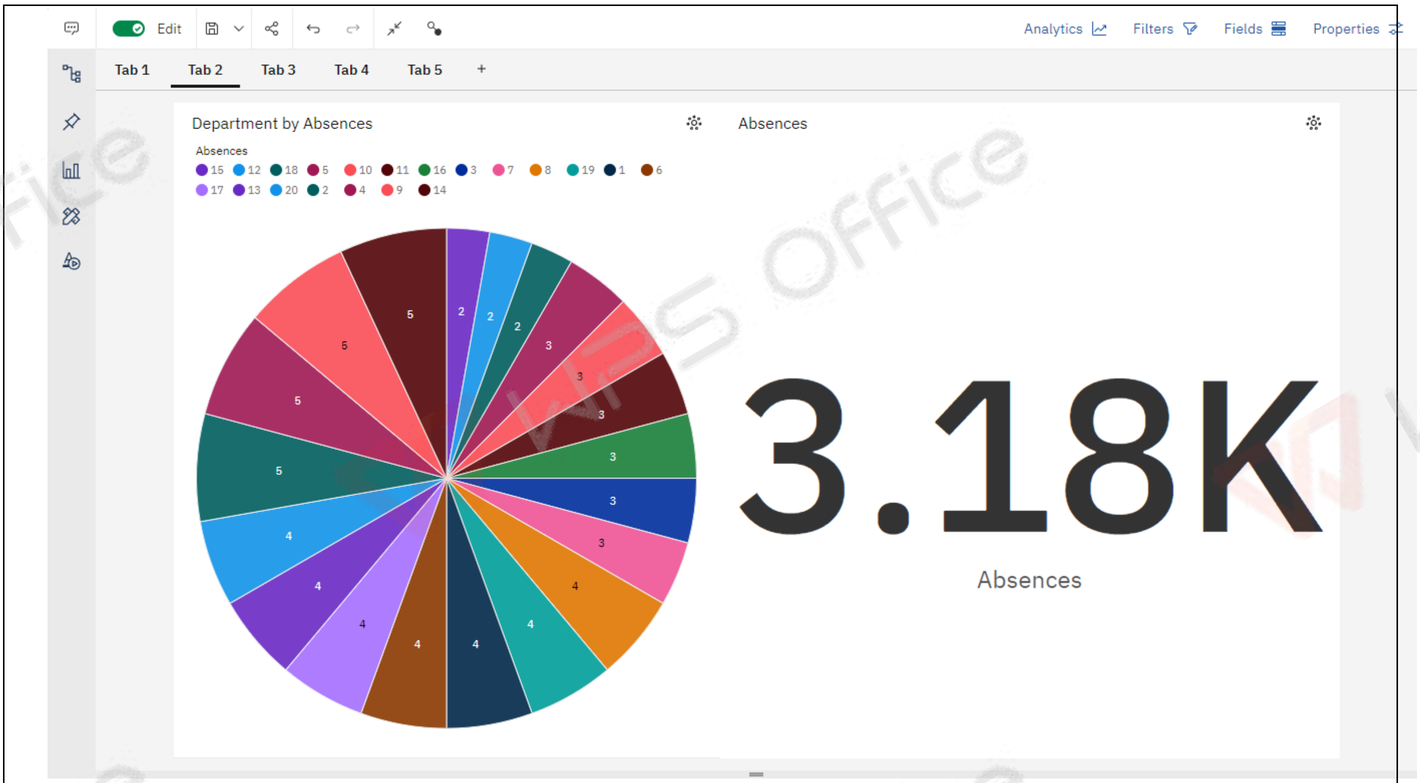
For **Salary**, the most significant value of **PerformanceScore** is Fully Meets, whose respective **Salary** values add up to over 1.0 million, or 58.4 % of the total.

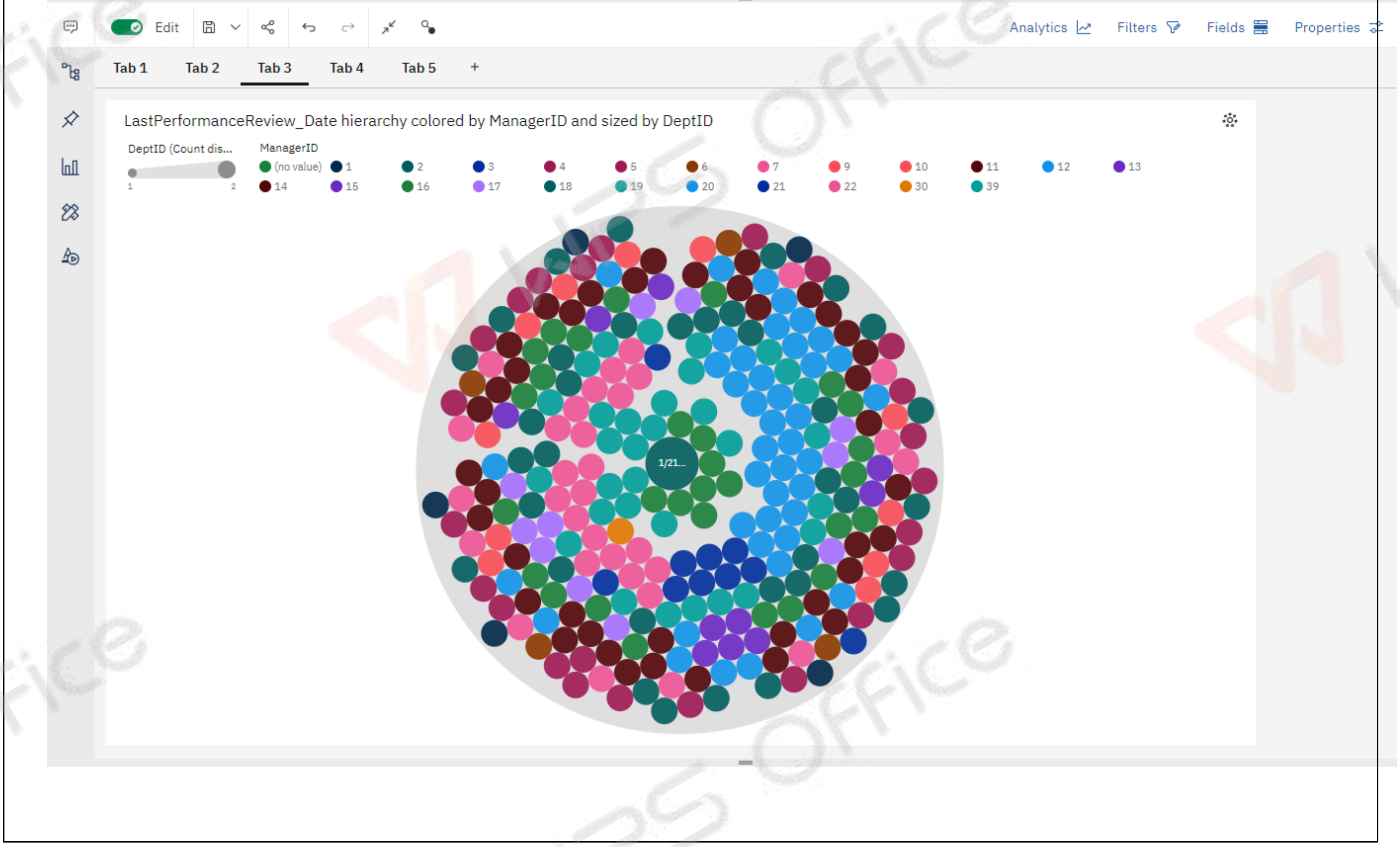
For **Salary**, the most significant values of **DOB** are 1954-09-21 and 1979-08-30, whose respective **Salary** values add up to over 470 thousand, or 27 % of the total.

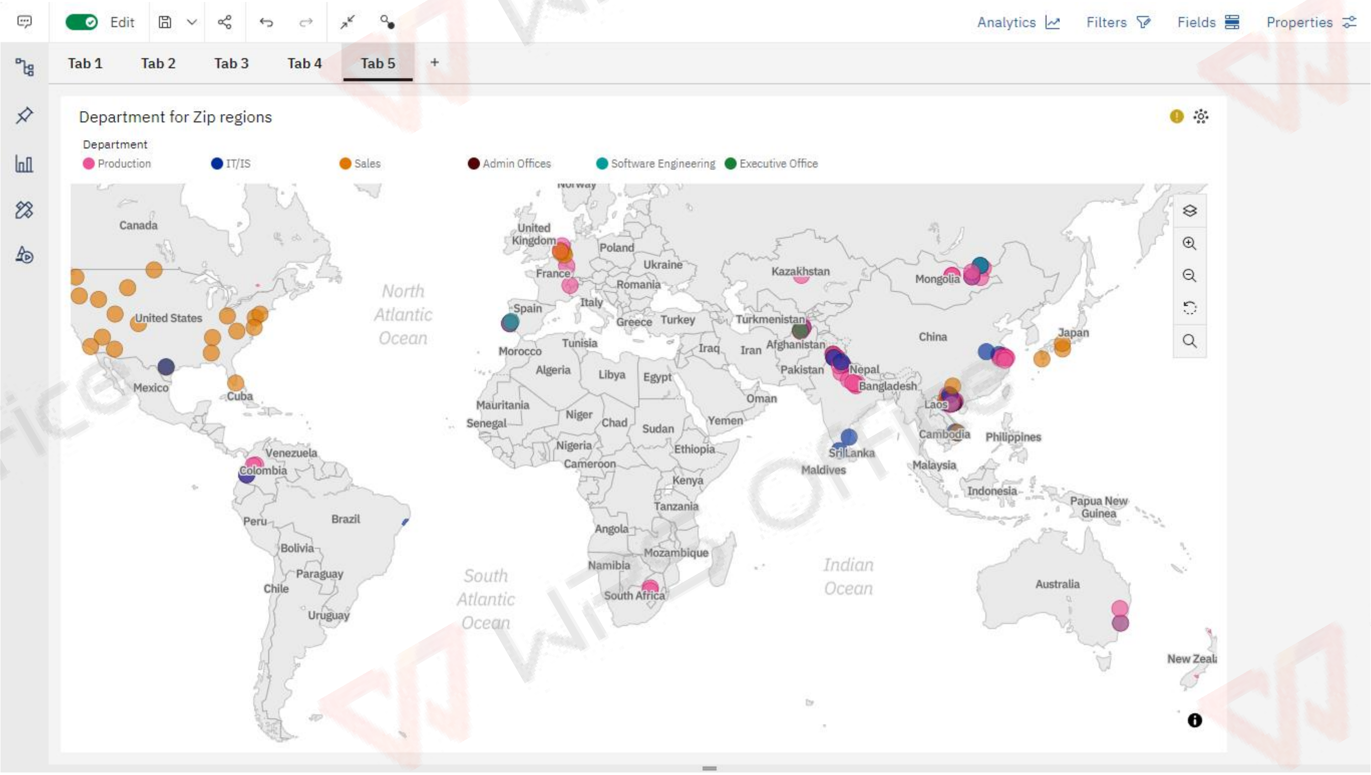
DASHBOARD



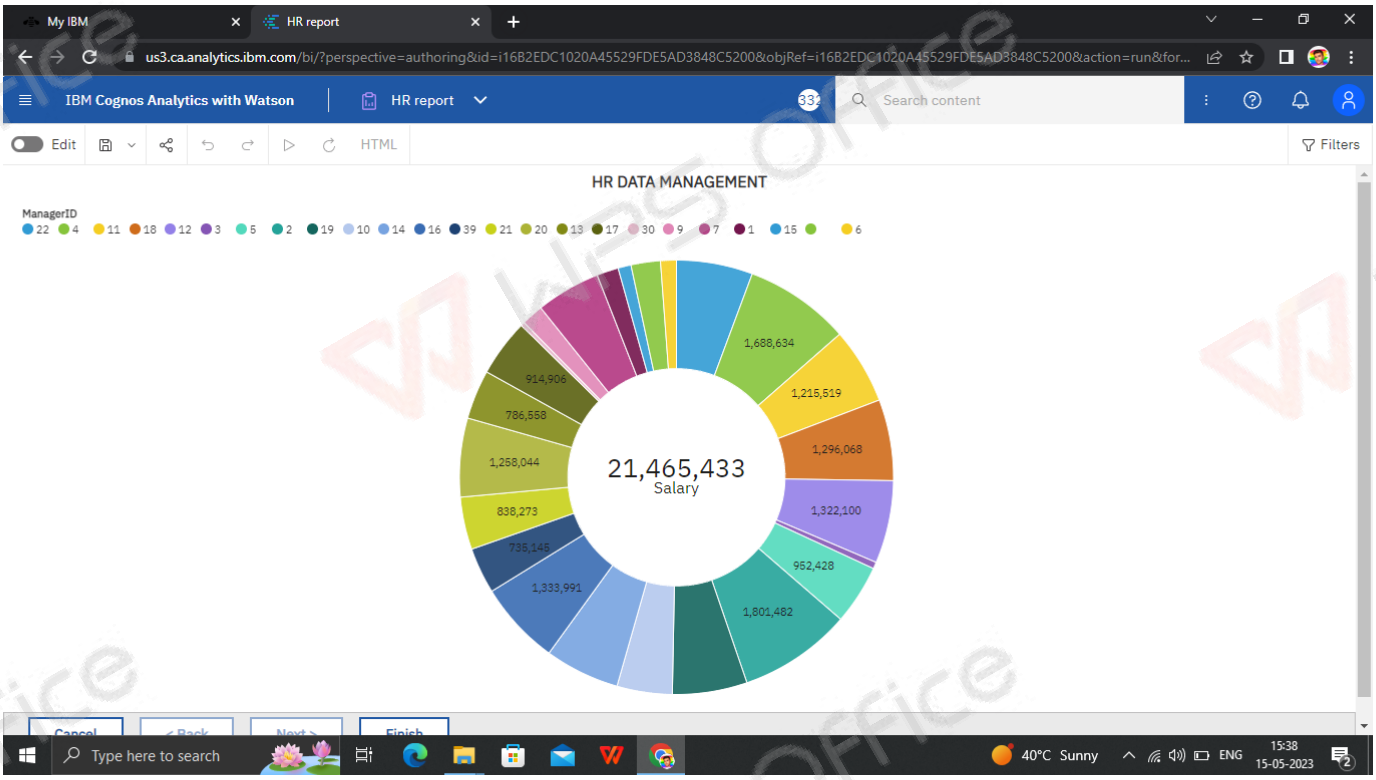
Edit
Analytics
Filters
Fields
Properties
Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
+
EmpID by DeptID
220
200
180
160
140
120
100
80
60
40
20
0
EmpID (Count distinct)
1
2
3
4
5
6
DeptID
Employee_Name
311
Employee_Name

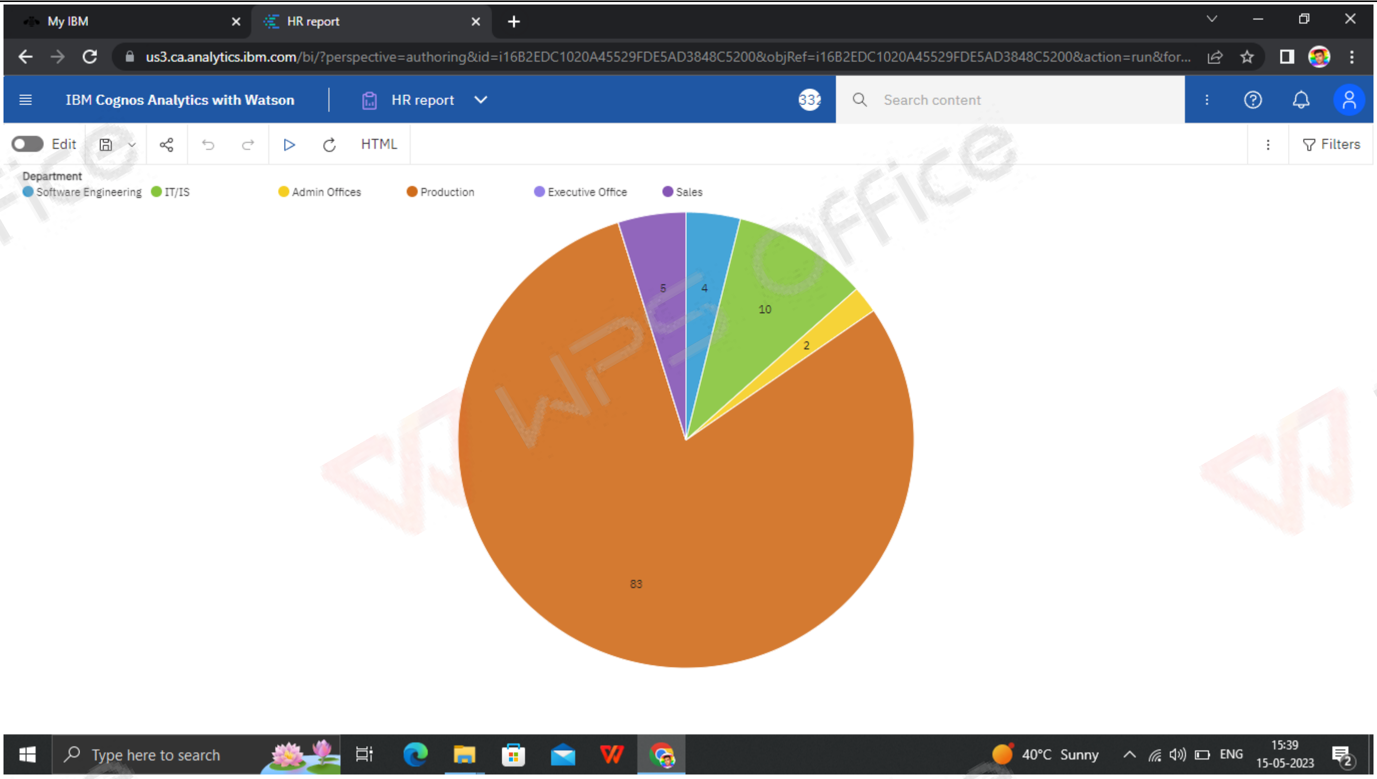

Edit
Analytics
Filters
Fields
Properties
Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
+
Department by Absences
Absences
15
12
18
5
10
11
16
3
7
8
19
1
6
17
13
20
2
4
9
14
2
2
2
3
3
3
3
3
3
4
4
4
4
4
4
4
5
5
5
5
5
3.18K
Absences


Edit
Analytics
Filters
Fields
Properties
Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
+
LastPerformanceReview_Date hierarchy colored by ManagerID and sized by DeptID
DeptID (Count dis...
1
2
ManagerID
(no value)
1
2
3
4
5
6
7
9
10
11
12
13
14
15
16
17
18
19
20
21
22
30
39
1/21...

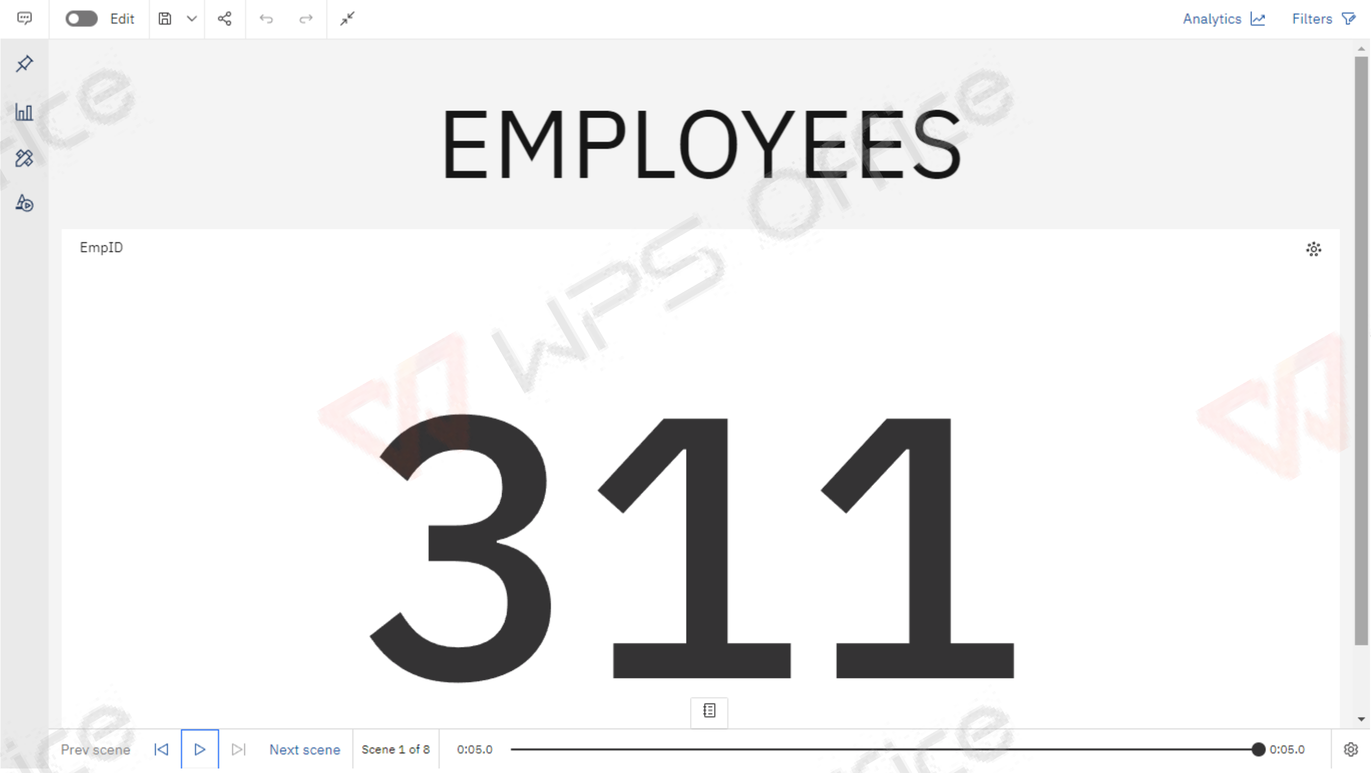

Edit
Analytics
Filters
Fields
Properties
Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
+
Department for Zip regions
Department
● Production
● IT/IS
● Sales
● Admin Offices
● Software Engineering
● Executive Office
Canada
United States
Mexico
Cuba
North Atlantic Ocean
Venezuela
Colombia
Peru
Brazil
Bolivia
Paraguay
Chile
Uruguay
South Atlantic Ocean
Norway
United Kingdom
France
Spain
Poland
Ukraine
Romania
Italy
Greece
Turkey
Morocco
Tunisia
Algeria
Libya
Egypt
Mauritania
Senegal
Niger
Chad
Sudan
Nigeria
Cameroon
Ethiopia
Kenya
Tanzania
Angola
Mozambique
Namibia
South Africa
Yemen
Oman
Iraq
Iran
Turkmenistan
Afghanistan
Pakistan
Kazakhstan
Nepal
Bangladesh
Sri Lanka
Maldives
Indian Ocean
Mongolia
China
Japan
Laos
Cambodia
Philippines
Malaysia
Indonesia
Papua New Guinea
Australia
New Zeal

REPORT

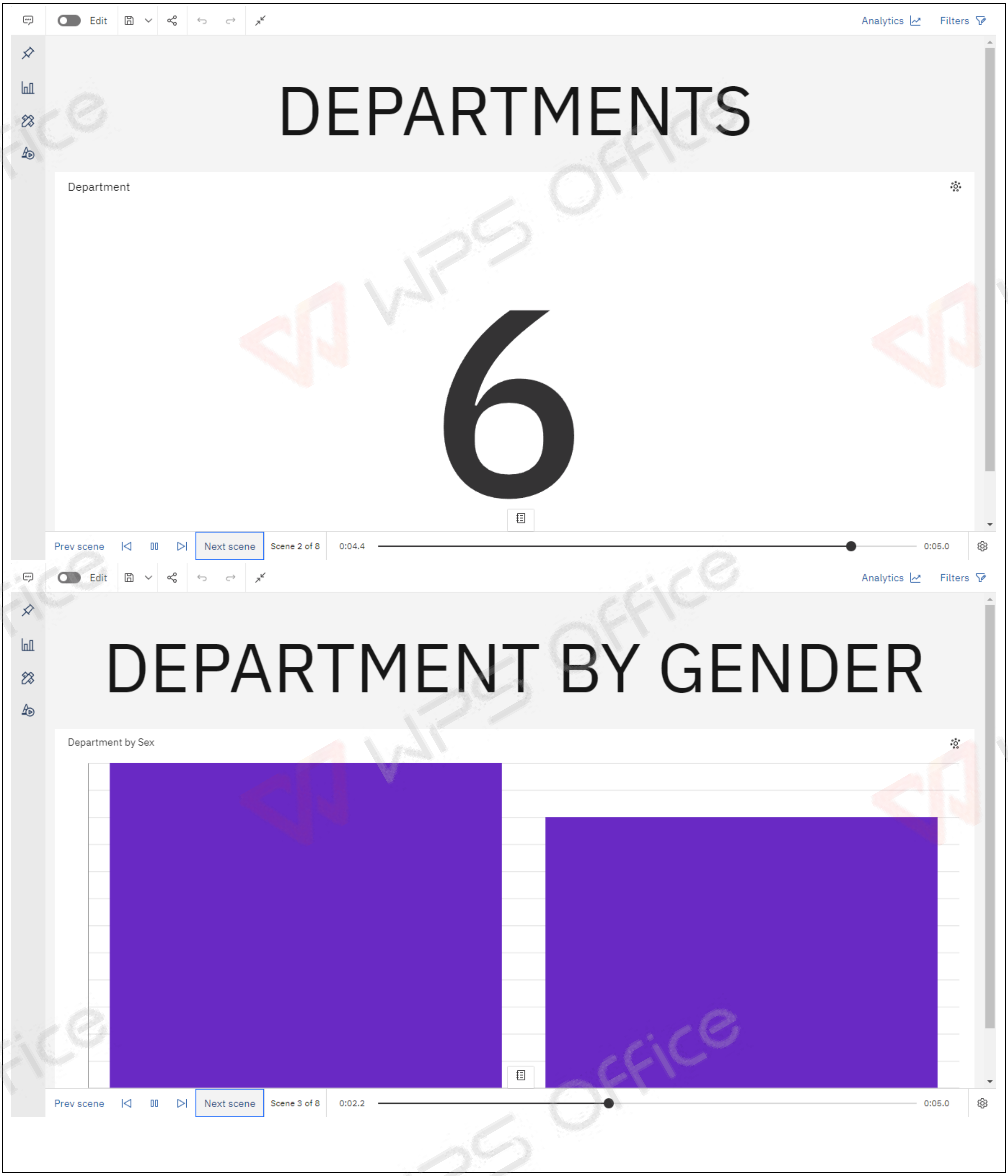

My IBM
HR report
us3.ca.analytics.ibm.com/bi/?perspective=authoring&id=i16B2EDC1020A45529FDE5AD3848C5200&objRef=i16B2EDC1020A45529FDE5AD3848C5200&action=run&for...
IBM Cognos Analytics with Watson
HR report
Search content
Edit
HTML
Filters
HR DATA MANAGEMENT
ManagerID
● 22 ● 4 ● 11 ● 18 ● 12 ● 3 ● 5 ● 2 ● 19 ● 10 ● 14 ● 16 ● 39 ● 21 ● 20 ● 13 ● 17 ● 30 ● 9 ● 7 ● 1 ● 15 ● ● 6
1,688,634
1,215,519
1,296,068
1,322,100
952,428
1,801,482
1,333,991
735,145
838,273
1,258,044
786,558
914,906
21,465,433
Salary
Cancel
< Back
Next >
Finish
Type here to search
40°C Sunny
ENG
15:38
15-05-2023


My IBM
HR report
us3.ca.analytics.ibm.com/bi/?perspective=authoring&id=i16B2EDC1020A45529FDE5AD3848C5200&objRef=i16B2EDC1020A45529FDE5AD3848C5200&action=run&for...
IBM Cognos Analytics with Watson
HR report
Search content
Edit
HTML
Filters
Department
Software Engineering
IT/IS
Admin Offices
Production
Executive Office
Sales
5
4
10
2
83
Type here to search
40°C Sunny
ENG
15:39
15-05-2023

STORY



Edit
Analytics
Filters
EMPLOYEES
EmpID
311
Prev scene
Next scene
Scene 1 of 8
0:05.0
0:05.0



DEPARTMENTS

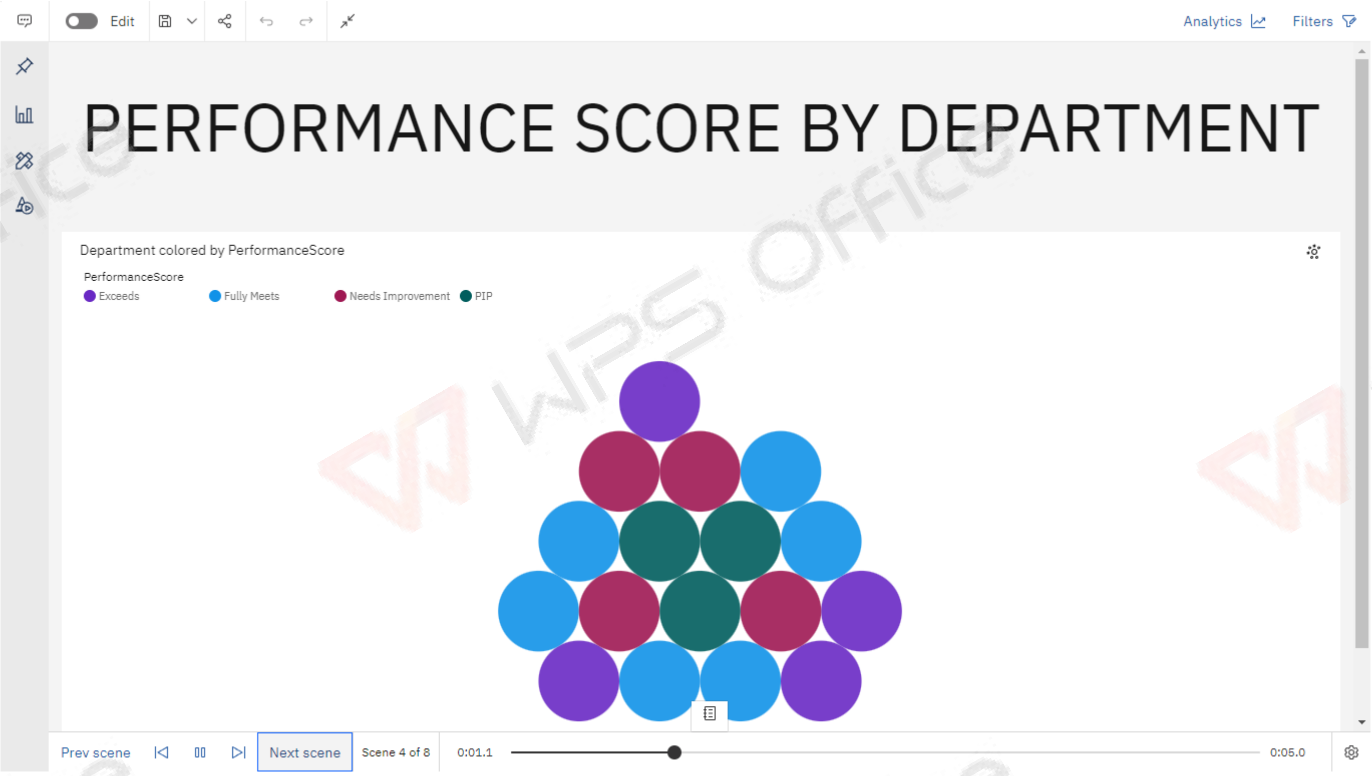
Department

6

DEPARTMENT BY GENDER

Department by Sex

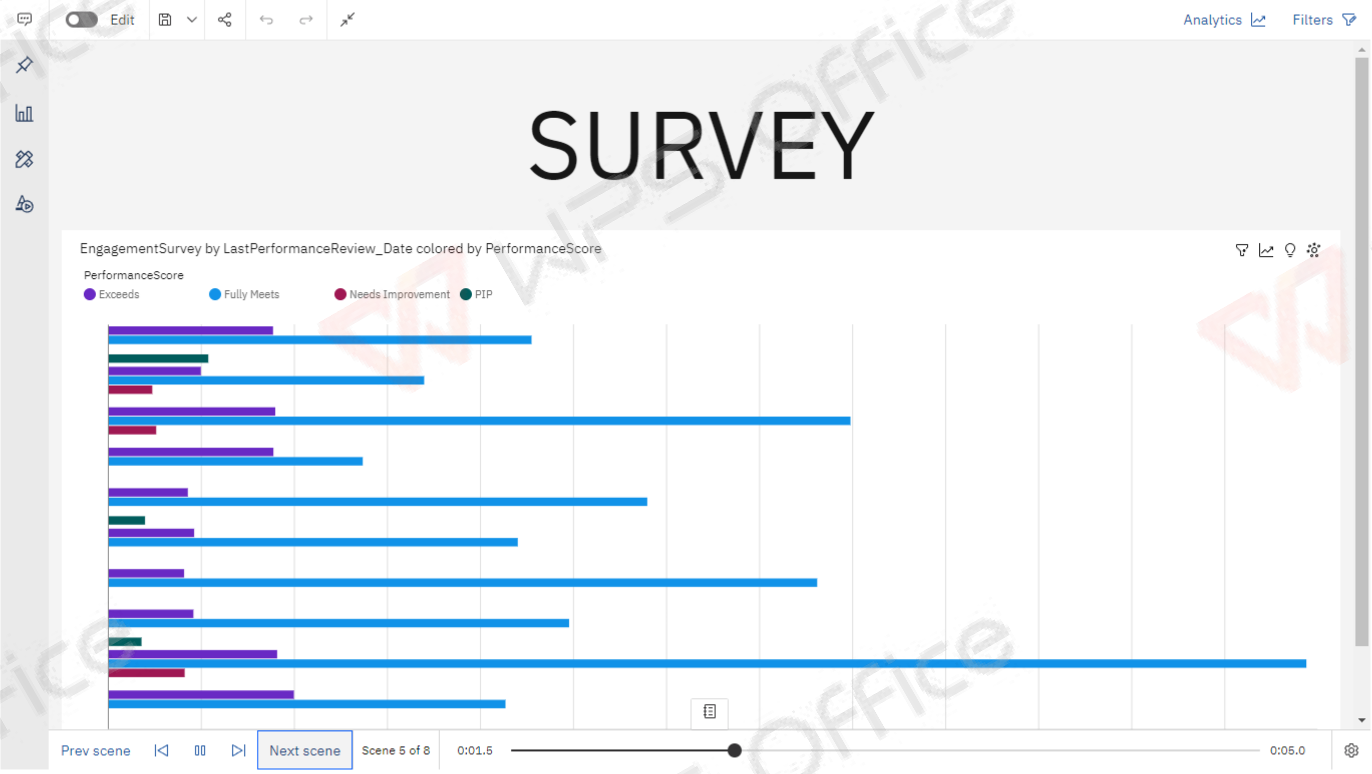
Edit
Analytics
Filters
Prev scene
Next scene
Scene 2 of 8
0:04.4
0:05.0
Edit
Analytics
Filters
Prev scene
Next scene
Scene 3 of 8
0:02.2
0:05.0



PERFORMANCE SCORE BY DEPARTMENT

Department colored by PerformanceScore

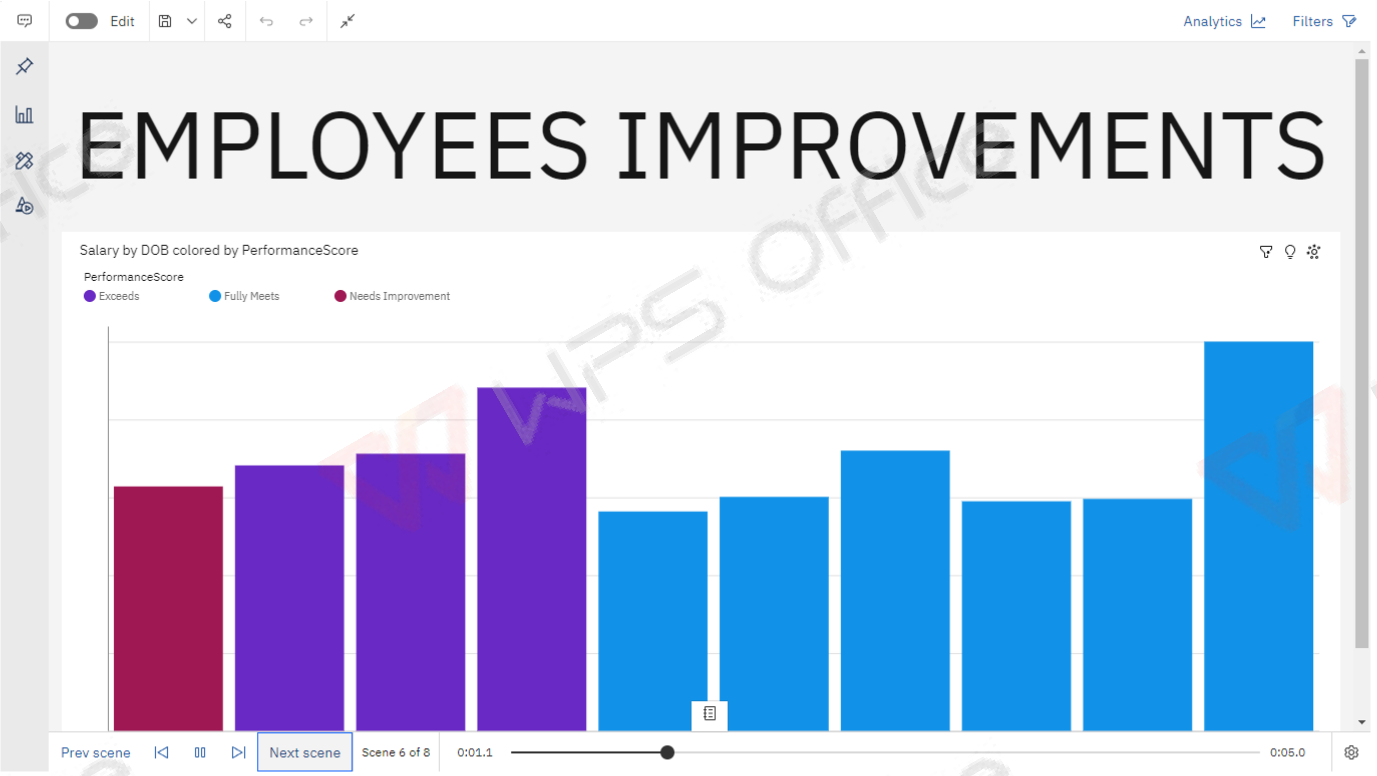
Edit
Analytics
Filters
PerformanceScore
● Exceeds
● Fully Meets
● Needs Improvement
● PIP
Prev scene
Next scene
Scene 4 of 8
0:01.1
0:05.0



SURVEY

EngagementSurvey by LastPerformanceReview_Date colored by PerformanceScore

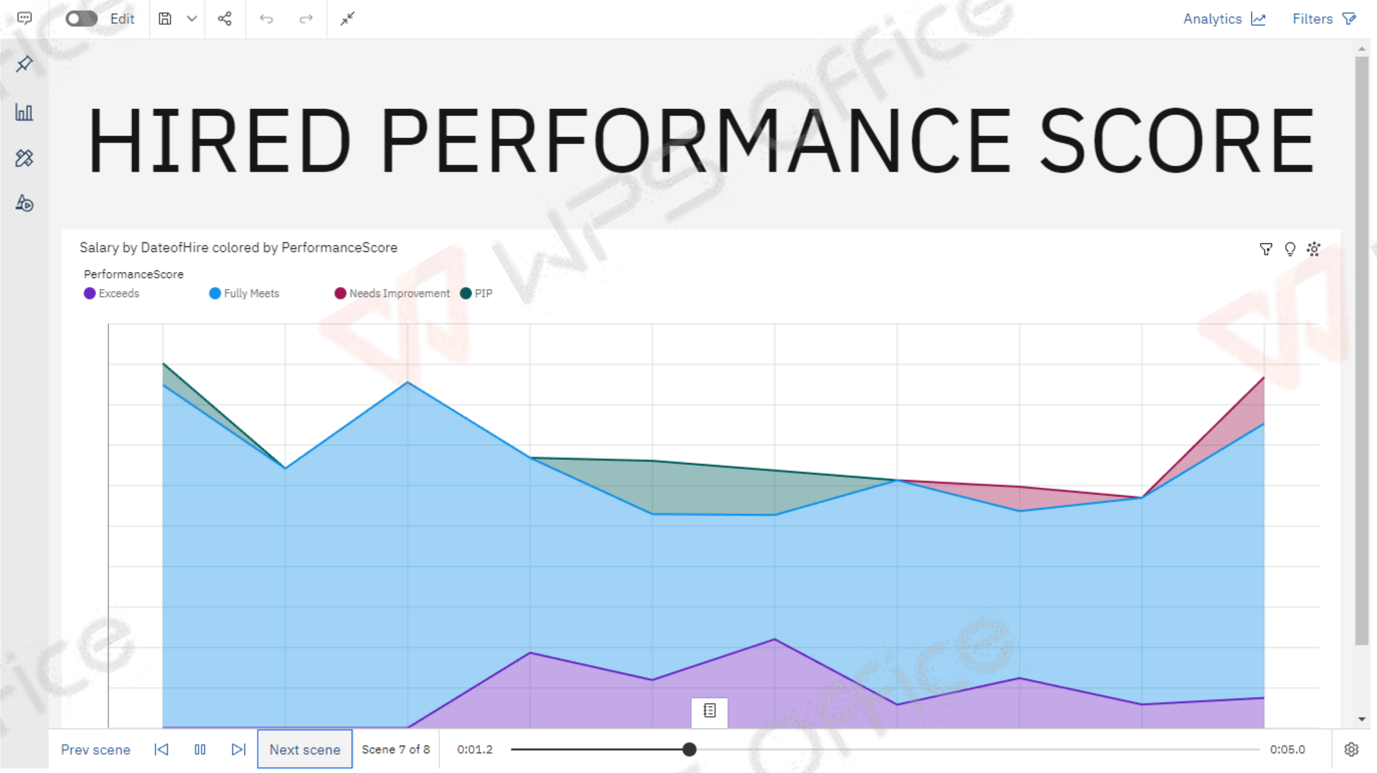
Edit
Analytics
Filters
PerformanceScore
● Exceeds
● Fully Meets
● Needs Improvement
● PIP
Prev scene
Next scene
Scene 5 of 8
0:01.5
0:05.0



EMPLOYEES IMPROVEMENTS

Salary by DOB colored by PerformanceScore

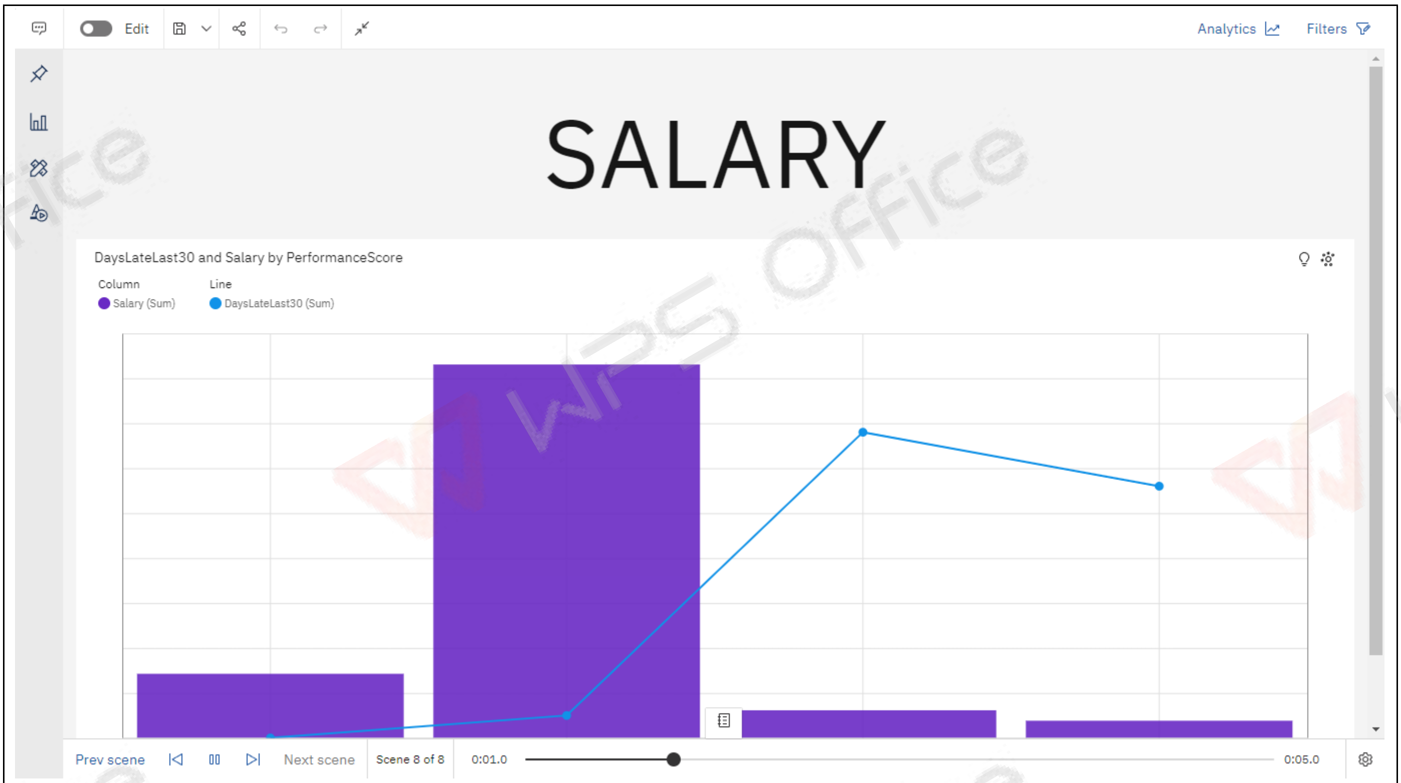
Edit
Analytics
Filters
PerformanceScore
● Exceeds
● Fully Meets
● Needs Improvement
Prev scene
Next scene
Scene 6 of 8
0:01.1
0:05.0



HIRED PERFORMANCE SCORE

Salary by DateofHire colored by PerformanceScore

Edit
Analytics
Filters
PerformanceScore
● Exceeds
● Fully Meets
● Needs Improvement
● PIP
Prev scene
Next scene
Scene 7 of 8
0:01.2
0:05.0



SALARY

DaysLateLast30 and Salary by PerformanceScore

Edit
Analytics
Filters
Column
● Salary (Sum)
Line
● DaysLateLast30 (Sum)
Prev scene
Next scene
Scene 8 of 8
0:01.0
0:05.0