

IBM Cognos Powered HR and People Analytics Dashboard

Introduction

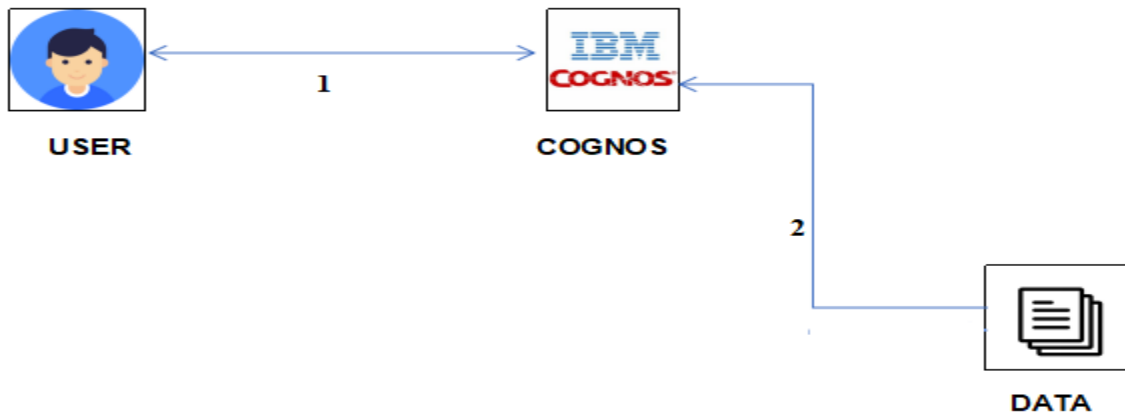
Overview

Analytics is the interpretation of data patterns that assist decision-making and performance improvement. HR analytics is defined as the process of measuring the impact of HR metrics, such as time to hire and retention rate on business performance. In this project, we visualize, analyze and gain most of the insights by creating a dashboard.

My project is all about the creation of a "Dashboard". My project is to do data analysis

- *Cleaning.*
- *Analyzing.*
- *Interpreting.*
- *Visualizing Data.*

and creating a dashboard in more effective manner using IBM cognos Analytics.



Purpose

The purpose of this project is to understand how to work on IBM Cognos Analytics, how to present the given data in an understandable manner by plotting graphs, and to have a quick overview of the working data as a dashboard is where there is multiple data, creation of meaningful dashboards as well.

- *Data science is the study of data to extract knowledge and insights from the data and apply knowledge and actionable insights. Data analysis can help companies better*
- *understand their customer*
- *evaluate their add campaigns*
- *personalize content*
- *create content strategies and develop products.*
- *Ultimately, businesses can use data analytics to boost business performance and improve their bottom line.*

1. *Know fundamental concepts and can work on IBM Cognos Analytics.*
2. *Gain a broad understanding of plotting different graphs.*
3. *Able to create meaningful dashboards.*

Literature survey

The problem is that the data which is in the dataset is little bit not comfortable to get quick understanding of data and have a quick overview of the data.

Creation of Dashboard



- ***Service Used: IBM Cognos Analytics.***

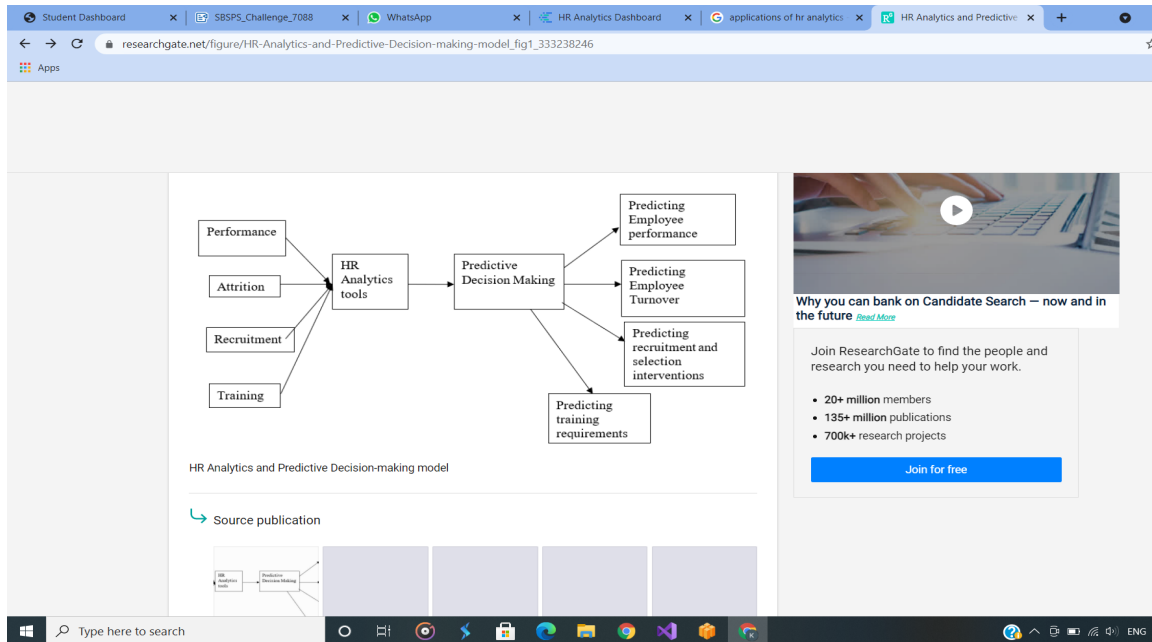
■ IBM
 ■ Cognos
 ■ Analytics

- *Data science is the study of data to extract knowledge and insights from the data and apply knowledge and actionable insights. Data analysis can help*

companies better

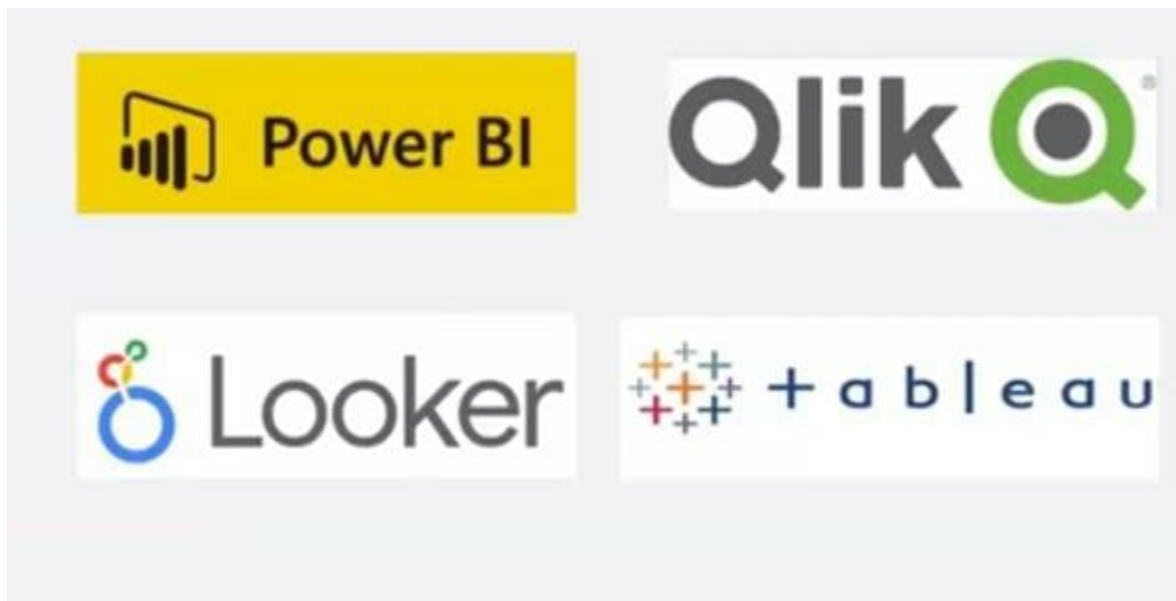
- *understand their customers*
- *evaluate their add campaigns*
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In this case to understand the data easily ,we can consider the related data and represent them in the form of bar graphs,pie charts etc...This is possible with the creation of dashboard which gives us an immediate and detailed view of the working dataset in a quick glance,decision making models can be created.



HR Analytics and Predictive Decision-making model

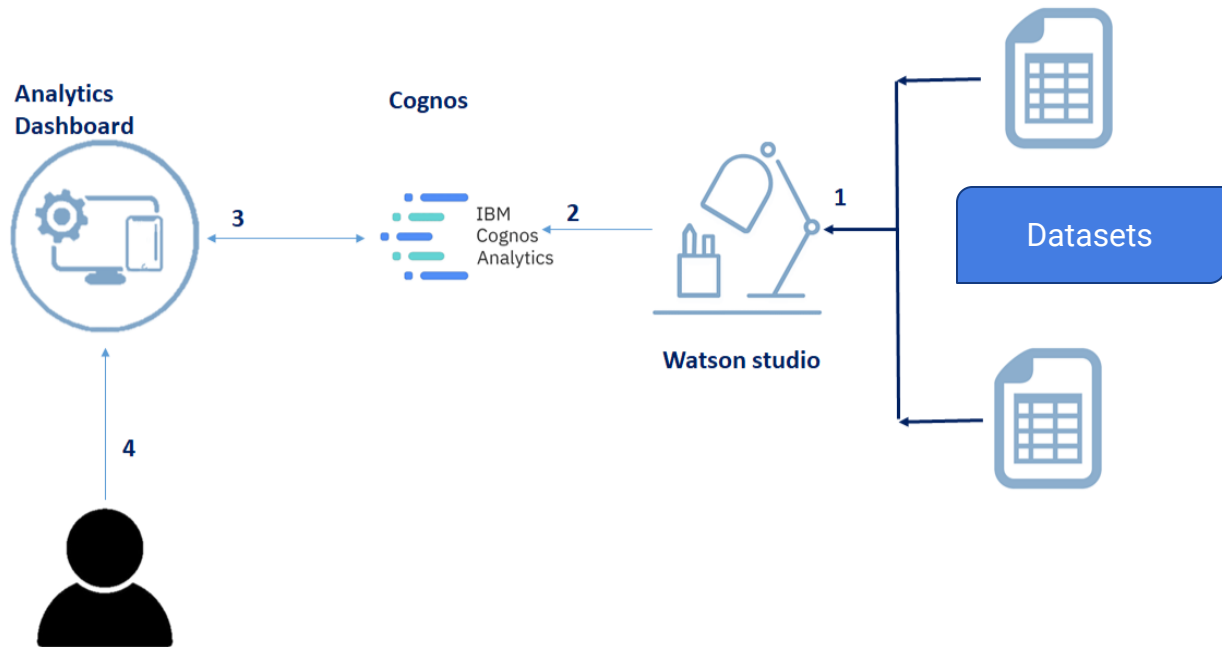
Some others tools which can be used-



Theroitical Analysis

Block Diagram

Diagrammatic overview of the project.



Software Requirements

- *IBM Cloud Account.*
- *IBM Cogonos Analytics.*
- *Windows 10.*

Hardware Requirements

- *Laptop*
- *Input Devices*
- *Processor*
- *Storage-to download*

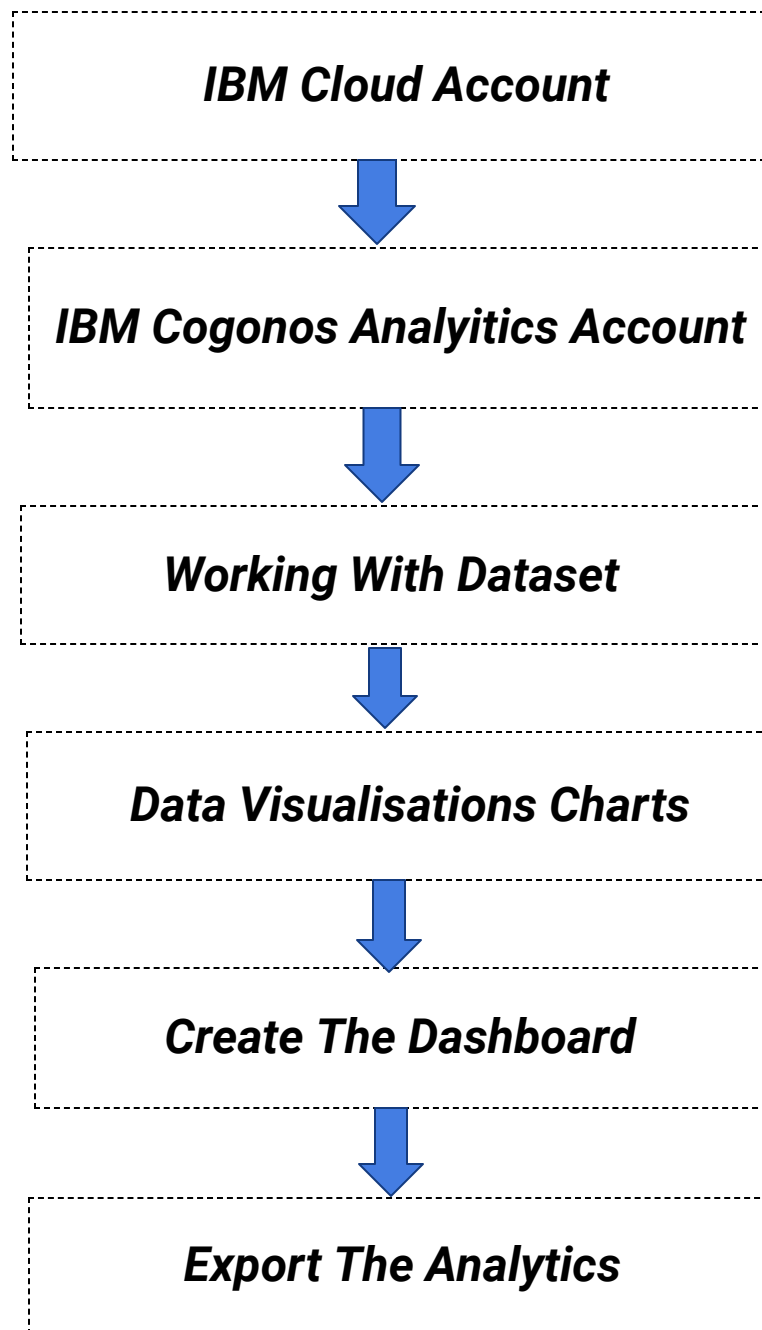
Experimental Investigations

Analysis is done on the data ,took the important contents in the given data on the attributes and compared them and created different types of graphs .

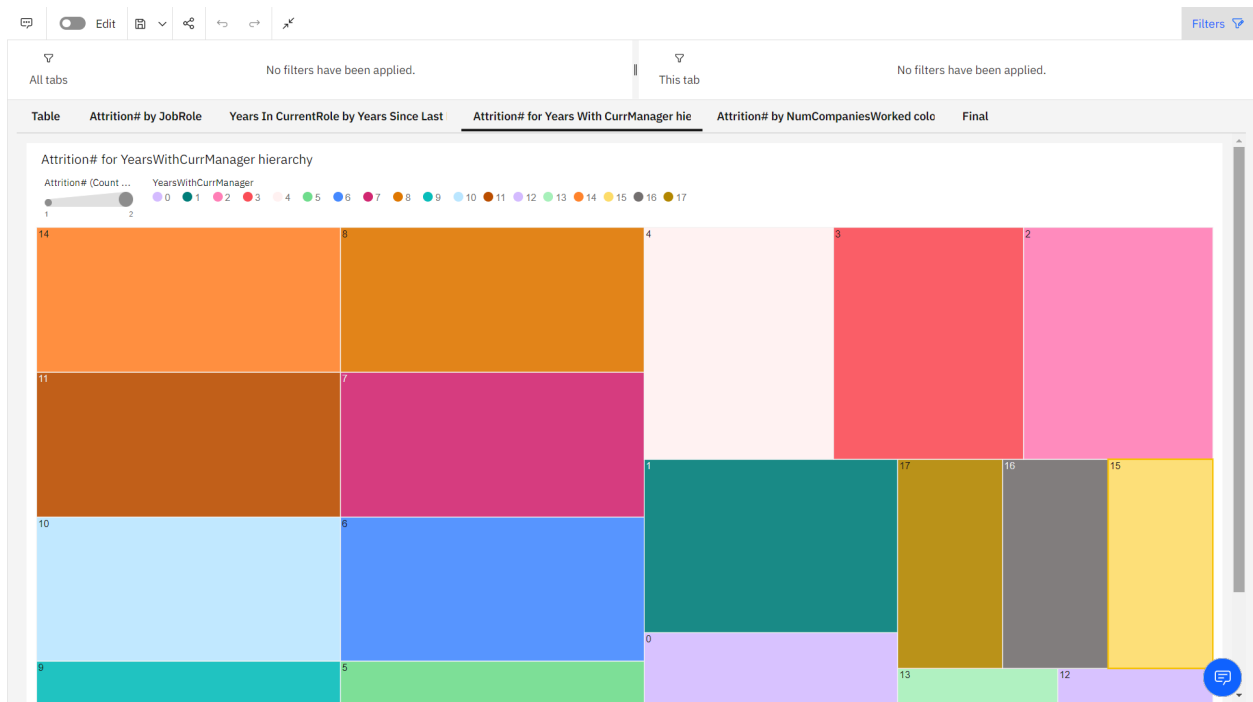
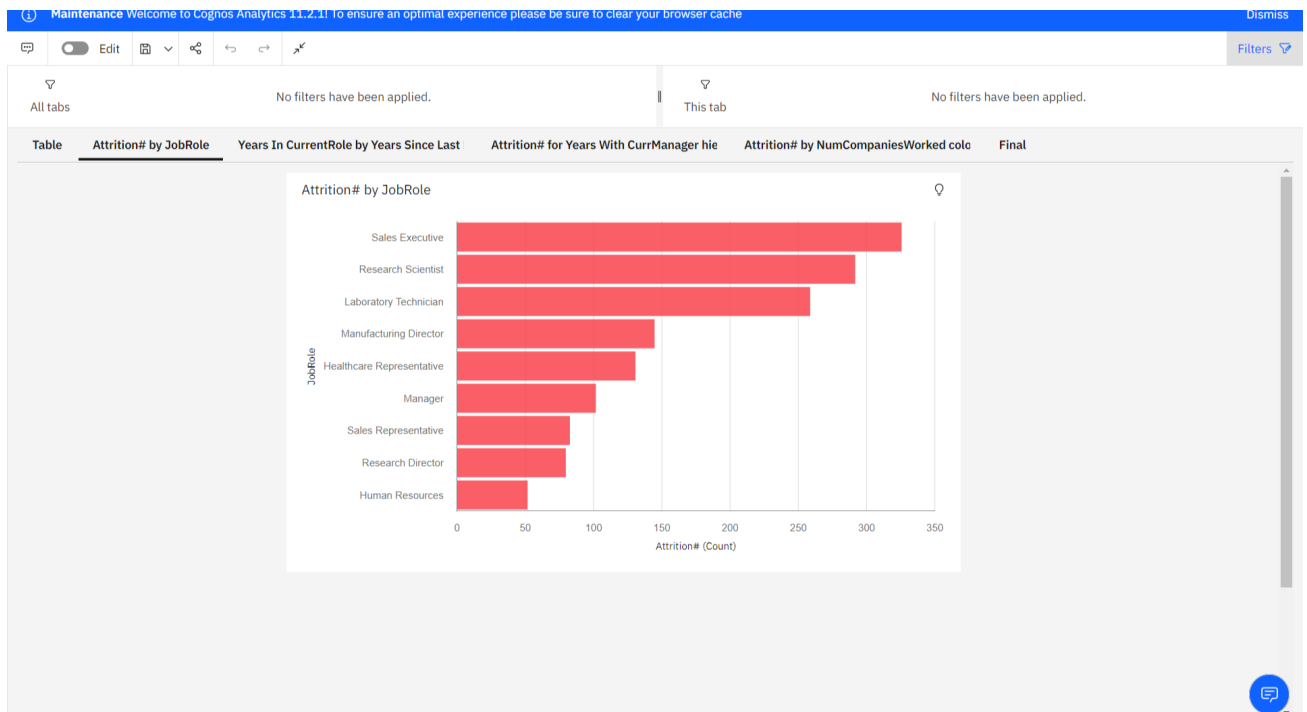
Comparisions are done and representations done upon these -

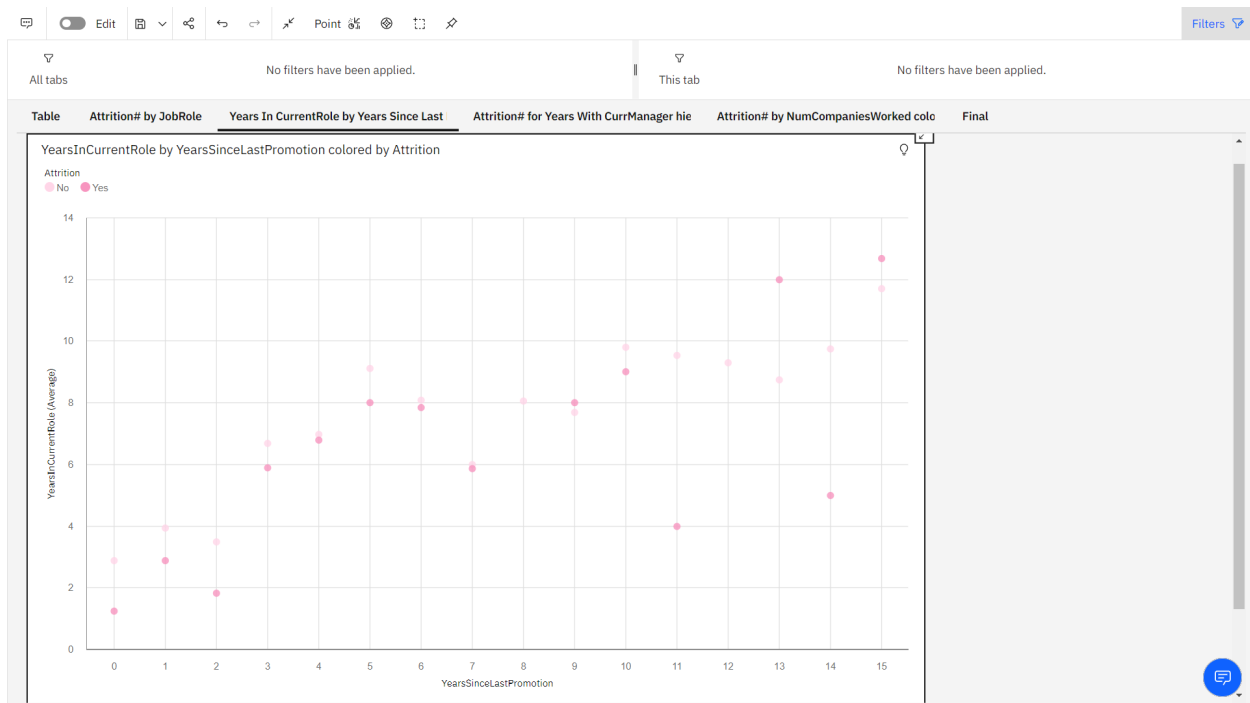
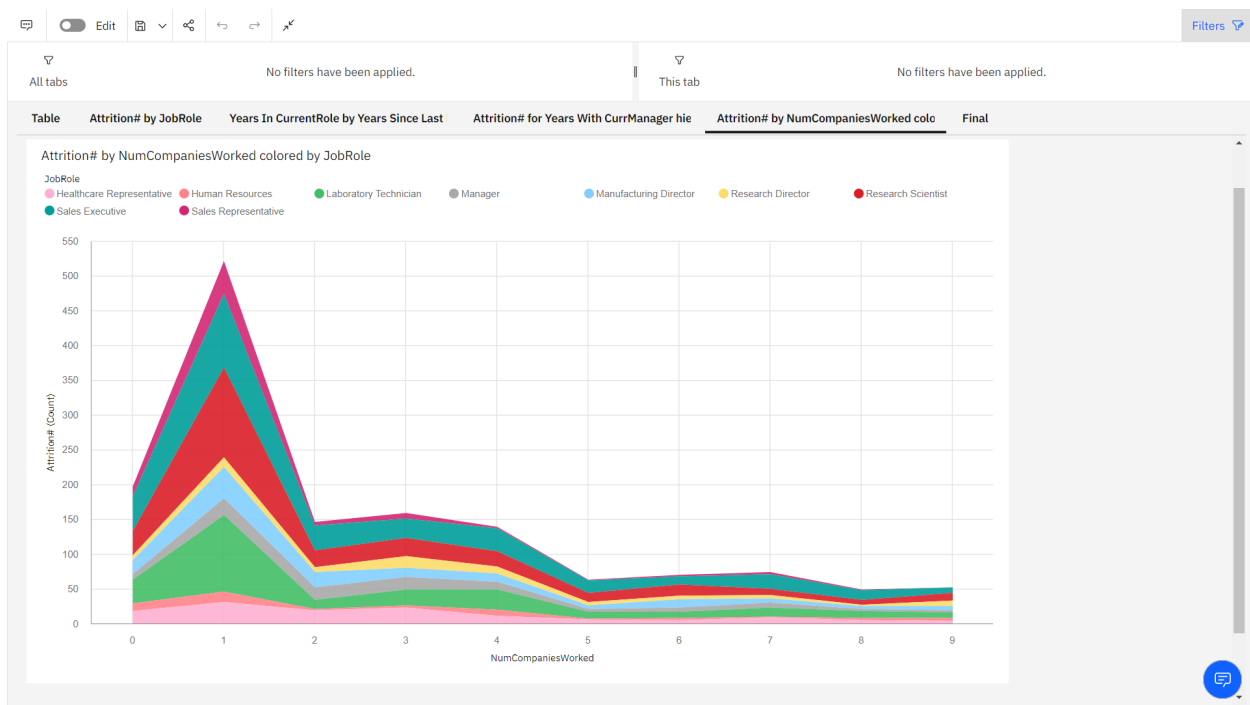
- *YearsInCurrentRole by YearsSinceLastPromotion colored by Attrition*
- *Attrition# for YearsWithCurrManager hierarchy*
- *Attrition# by NumCompaniesWorked colored by JobRole,*
- *Attrition# by JobRole*

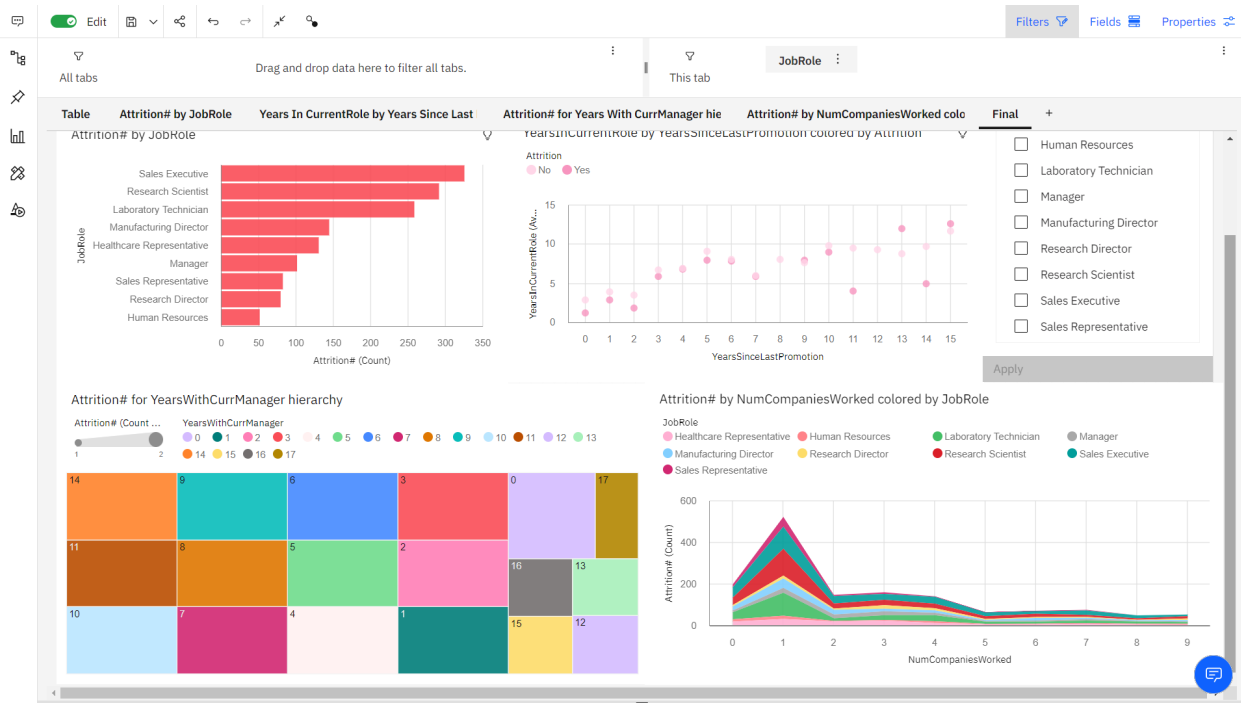
Flow Chart



Result







These are the final dashboard screenshots ...

Here we can see that the dashboard consists of Attrition# by Job Role is given by a bargraph,Analysing Age, Total Working Years, Attrition, Years At Company And Monthly Income, Attrition#Years with current Manager Hierarchy is represented by a tree graph,Attrition By No Of Companies Worked Colored By JobRole is represented by a area map,Years In Current Role By Years Since Last Promotion Colored By Attrition is represented by point visualization.

Advantages

- *Enhanced visibility.*
- *Better decision-making.*
- *Key Performance Indicators.*
- *Better Forecasting.*
- *Improved results.*
- *Easy communication.*
- *Quick, dynamic representation.*
- *Understand and mitigate risk.*
- *Recognize skills and vulnerabilities of the workforce.*

Disadvantages

- *Difficulty in integrating data.*
- *Access to the right information.*

Applications

- *1) Talent Acquisition.*
- *2) Training and evaluation.*
- *3) Employee performance.*
- *4) Financial compensation.*
- *5) Retention.*
- *6) Marketing.*

- 7) Planning.
- 8) Health and injuries.

Conclusion

Easy way to analysing data and predicting the data is done using the IBM Cogonos Analytics .Created an end to end Data visualization Dashboard by uploading data,creating template,visualization.

Analysing various fields like Age, TotalWorkingYears, Attrition#, YearsAtCompany and MonthlyIncome by taking the average values is done and few more to create the final dashboard and exported it.

Also experienced most of features available in IBM Cogonos and learned to work in this kind of environment.

Future Scope

Enhancements that can be made in future.

- *There is a huge scope for the changes that can be made in future,advanced technology can make it more easier to predict the performances automatically and in more time saving way.*
- *The data given to the system can be automatically analyzed .*
- *Even the system may give suggestions directly by itself.*

Bibilography

References of previous works , websites/books referred for analysis about the project,solution previous findings etc.

- <https://youtube.com/playlist?list=PLPuhivDgwRT168QR3D02sdmEjm-8I84cx>
- https://www.researchgate.net/publication/333238246_HR_ANALYTICS_A_MODERN_TOOL_IN_HR_FOR_PREDICTIVE_DECISION_MAKING
- <https://images.app.goo.gl/bEZ4VHFUY4TSwRXC>



<https://youtu.be/7glJYDnChAs>

Appendix

A.Source Code

This is the code for changing the attribute "attrition" in the given dataset from 'Yes' and 'No' to '1' and '0'.

```
if(Attrition='Yes') then  
  ('1')  
else  
  ('0')
```

