

## INTRODUCTION

The human resources department always plays a vital role in the growth of an organization and it is enhanced more by the application of HR analytics. it doesn't only collect data about how employees are working, but it will provide insights into each of the human resources processes gathering data and then using this data to make informed decisions. A detail HR dashboard will help the in

- Monitoring the human capital
- Helping the HR to perform better
- Improving the hiring process

We also have one such dataset where will develop a report to determine how many employees are due for promotions and how many of them have to be laid off and many more things

## DATASET DESCRIPTION AND SOURCE

The dataset I basically contains two csv files

- HR employee data contains 2 columns and 1470 rows
- HR data (data is available in a single column which needs to be cleaned first)

The dataset links

- HR data - <https://drive.google.com/file/d/13X-8wqi9y1emt-cpJ3WvZrWY3z77JZ8E/view?usp=sharing>
- HR employee- <https://drive.google.com/file/d/1QCNFlc-geRADByDZly5X4XVuLWCG5wbT/view?usp=sharing>

	A	B	C	D	E	F	G	H	I
1	AgeAttritionBusinessTravelDailyRateDepartmentDistanceFromHomeEducationEducationFieldEmployeeCountEmployeeNumberEnvironmentSatisfactionGenderHourlyRateJobInvolvementJobLevelJobRoleJobSatisfactionMaritalStatusMonthlyIncomeMonthly								
2	41YesTravel_Rarely1102Sales12Life Sciences112Female9432Sales Executive4Single5993194798YYes11318008016405								
3	49NoTravel_Frequently279Research & Development81Life Sciences123Male6122Research Scientist2Married5130249071YNo2344801103310717								
4	37YesTravel_Rarely1373Research & Development220Other144Male9221Laboratory Technician3Single209023966YYes15328007330000								
5	33NoTravel_Frequently1392Research & Development34Life Sciences154Female5631Research Scientist3Married2909231591YYes11338008338730								
6	27NoTravel_Rarely591Research & Development21Medical171Male4031Laboratory Technician2Married3468166329YNo12348016332222								
7	32NoTravel_Frequently1005Research & Development22Life Sciences184Male7931Laboratory Technician4Single3068118640YNo13338008227736								
8	59NoTravel_Rarely1324Research & Development33Medical1103Female8141Laboratory Technician1Married267099644YYes204180312321000								
9	30NoTravel_Rarely1358Research & Development241Life Sciences1114Male6731Laboratory Technician3Divorced2693133351YNo22428011231000								
10	38NoTravel_Frequently216Research & Development233Life Sciences1124Male4423Manufacturing Director3Single952687870YNo214280010239718								
11	36NoTravel_Rarely1299Research & Development273Medical1133Male9432Healthcare Representative3Married5237165776YNo133280217327777								
12	35NoTravel_Rarely809Research & Development163Medical1141Male8441Laboratory Technician2Married2426164790YNo13338016535403								
13	29NoTravel_Rarely153Research & Development152Life Sciences1154Female4922Laboratory Technician3Single4193126820YYes123480010339508								
14	31NoTravel_Rarely670Research & Development261Life Sciences1161Male3131Research Scientist3Divorced2911151701YNo17348015125243								
15	34NoTravel_Rarely1346Research & Development192Medical1182Male9331Laboratory Technician4Divorced266187580YNo11338013232212								
16	28YesTravel_Rarely103Research & Development243Life Sciences1193Male5021Laboratory Technician3Single2028129475YYes14328006434203								
17	29NoTravel_Rarely1389Research & Development214Life Sciences1202Female5143Manufacturing Director1Divorced9980101951YNo1133801101310988								
18	32NoTravel_Rarely334Research & Development52Life Sciences1211Male8041Research Scientist2Divorced3298150530YYes12348027526205								
19	22NoNon-Travel1123Research & Development162Medical1224Male9641Laboratory Technician4Divorced293573241YYes13328021221000								
20	53NoTravel_Rarely1219Sales24Life Sciences1231Female7824Manager4Married15427220212YNo1633800313325837								
21	38NoTravel_Rarely371Research & Development23Life Sciences1244Male4531Research Scientist4Single394443065YYes11338006333212								
22	24NoNon-Travel673Research & Development1120Other1261Female9642Manufacturing Director3Divorced401182320YNo18348015524213								
23	36YesTravel_Rarely1218Sales94Life Sciences1273Male8221Sales Representative1Single340769867YNo234280010435303								
24	34NoTravel_Rarely419Research & Development74Life Sciences1281Female5333Research Director2Single11994212930YNo11338001343126211								
25	21NoTravel_Rarely391Research & Development152Life Sciences1303Male9631Research Scientist4Single1232192811YNo14348006330000								
26	34YesTravel_Rarely699Research & Development61Medical1312Male8331Research Scientist1Single2960171022YNo11338008234213								
27	53NoTravel_Rarely1282Research & Development530Other1323Female5835Manager3Divorced19094107354YNo11348012632141348								
28	32YesTravel_Frequently1125Research & Development161Life Sciences1332Female7211Research Scientist1Single391946811YYes2242800105310267								
29	42NoTravel_Rarely691Sales84Marketing1353Male4832Sales Executive2Married6825211730YNo113480110239742								

## DATA PREPARATION AND CLEANING

1. First and the fore most change the regional setting and the autodetect relationship options

Go to File ->options and settings -> options->current file ->Data load -> Deselect the autodetect new relation after data is loaded option (if you want to create relationship on your own)

Go to File ->options and settings -> options->current file ->Regional settings ->English (USA)

2. For HR emp data dim table

- promote the headers by using the use first row as header options.
- Changed data types of "options."
- Renamed the columns to "employee name "

3. For, HR dataset

- After loading, the data is present in a single column, hence it was cleaned by using the "split the column by delimiter option ".
- promote the headers by using the use first row as header options.
- Changed data types of "age", "distance from home", "Daily route", education etc.
- Created two custom columns to create "years of service" and "job level "columns.

4. Created a conditional column named 'promotion status "where if the year since last promotion is greater than or equal to 10 then the employee is due for promotion or else not due. Changed columns datatype to text.

5. Created another conditional column named "retrenchment status" where if the year at company is greater than or equal to 20 then the employee is to be lay off or else, he is on service.

6. Created another conditional column named "Distance status" where if the distance from home is greater than or equal to 20 then "Far" distance from home is greater than or equal to 10 then "Medium" or else "Close"

7. Merged the two queries based on "employee id" and selected a new column named "employee name"

8. Created another conditional column named "Job satisfaction status" where if the  
Job satisfaction is greater than or equal to 4," High"  
job satisfaction is greater than or equal to 3," Moderate"  
or else "Low".

9. Created another conditional column named "Performance rating" where if the **performance** rating is less than or equal to 3 then "Low", or else "High"

10. In the report view, go to summary page and add a bookmark and do the same for Retrenchment and promotion data page . Then go to summary page ->insert->buttons->select blank (place then blank button on top of the summary title. Select this button and go to format button ->turn on action->type->bookmark ->bookmark->select the bookmark created for that page . Do the same for the other one as well . Now if you click on the title it will take you to the corresponding bookmark added

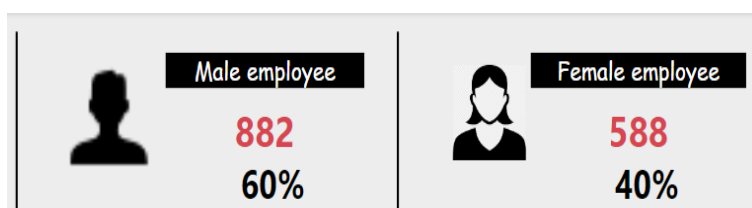
## DAX MEASURES

MEASURE NAME	DAX FUNCTION	M-CODE	EXPLANATION
Total employees	COUNTROWS	Total employees = COUNTROWS ('HR dataset')	
On service	CALCULATE	On service = CALCULATE ([Total employees], 'HR dataset'[Retrenchment status] = "On service")	
Retrenchment	IF () ISBLANK () CALCULATE ()	Retrenchment = IF (ISBLANK (CALCULATE ([Total employees], 'HR dataset'[Retrenchment status] = "retrenched")), 0, CALCULATE ([Total employees], 'HR dataset'[Retrenchment status] = "retrenched"))	
Promotion due		Promotion due = IF (ISBLANK (CALCULATE ([Total employees], 'HR dataset'[promotion status] = "Promotion due")), 0, CALCULATE ([Total employees], 'HR dataset'[promotion status] = "Promotion due"))	
promotion not due		promotion not due = IF (ISBLANK (CALCULATE ([Total employees], 'HR dataset'[promotion status] = "Promotion not due")), 0, CALCULATE ([Total employees], 'HR dataset'[promotion status] = "Promotion not due"))	
No. of male employees	CALCULATE ()	No. of male employees = CALCULATE ([Total employees], 'HR dataset'[Gender] = "Male")	
No. of female employees		No. of female employees = CALCULATE ([Total employees], 'HR dataset'[Gender] = "Female")	
Low rated		low rated = CALCULATE ([Total employees], 'HR dataset'[performance rating] = "low")	
High rated		High rated = CALCULATE ([Total employees], 'HR dataset'[performance rating] = "High")	
% On service	Divide ()	% On service = divide ([On service], [Total employees])	
% Retrenched employee		% Retrenched employee = DIVIDE([Retrenchment], [Total employees])	
% Of promotion not due		% Of promotion not due = DIVIDE ([promotion not due], [Total employees])	

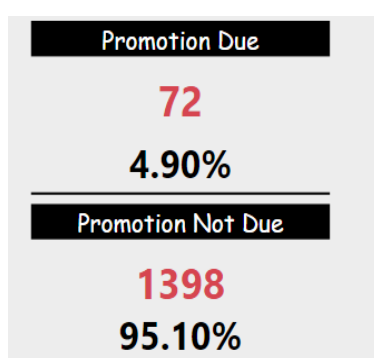
% Of promotion due		% Of promotion due = $\text{DIVIDE} ([\text{Promotion due}], [\text{Total employees}])$	
% Of male employees		% Of male employees = $\text{DIVIDE} ([\text{No. of male employees}], [\text{Total employees}])$	
% Of low rated		% Of low rated = $\text{DIVIDE} ([\text{low rated}], [\text{Total employees}])$	
% Of high rated		% Of high rated = $\text{DIVIDE} ([\text{High rated}], [\text{Total employees}])$	
% Of female employees		% Of female employees = $\text{DIVIDE} ([\text{No. of female employees}], [\text{Total employees}])$	

## INFERENCES AND CONCLUSIONS OF OUR OBJECTIVES

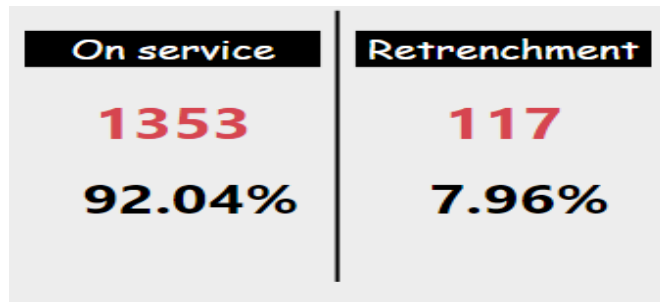
### 1. % Of male and female employees in the company



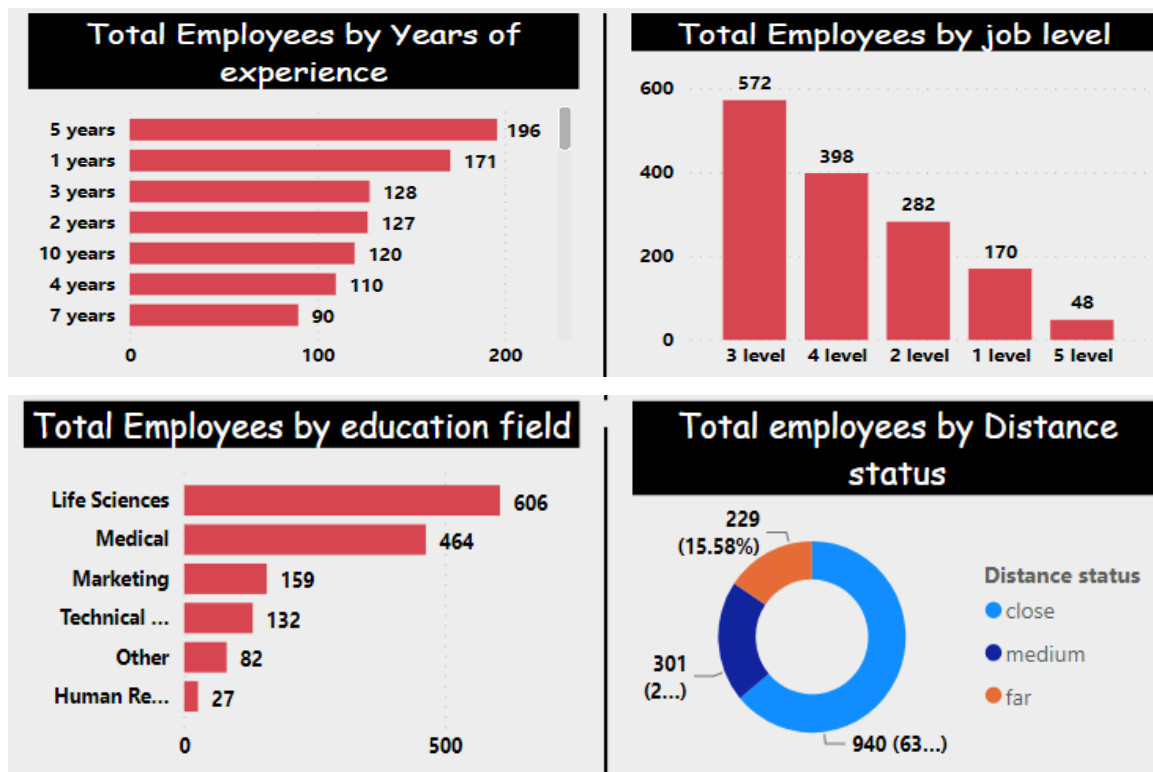
### 2. % Of employees due and not due for promotion



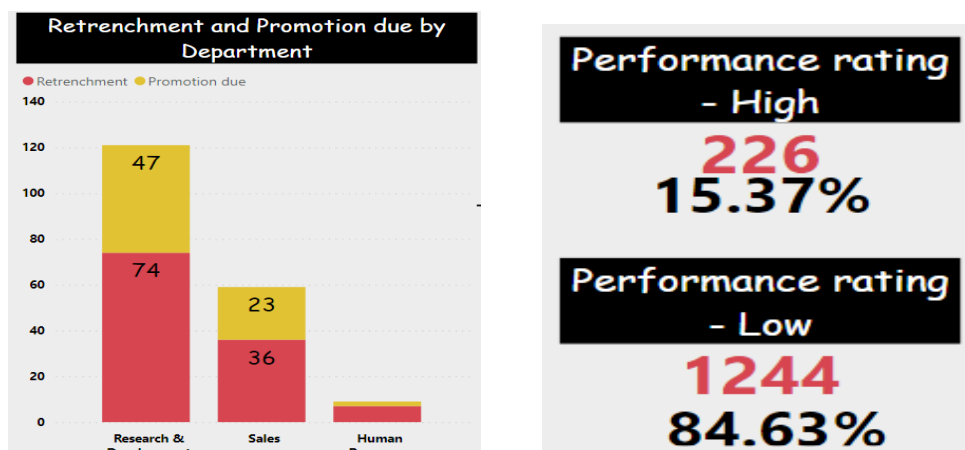
### 3. On service and retrenchment stats.



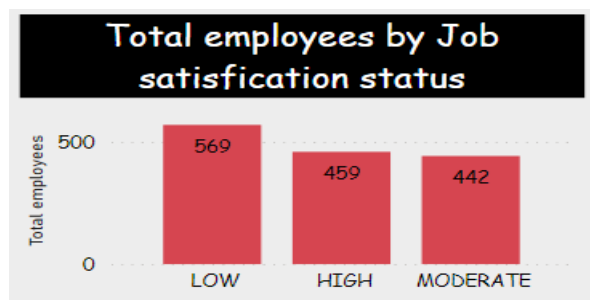
#### 4. Total employees by years of experiences, distance, education and job level



#### 5. Retrenchment and promotions of employees by department, performance rating



## 6. Employee satisfaction status



## FUTURE WORKS

There are a lot of insights which can be added to these reports in future along with addition of some more dataset, some of them are as listed Below

- Find out the promotion and retrenchment stats for females
- Age wise performance of individual employees
- Calculate overtime expenses, salary hike and catch to the companies
- Employee salary and promotion history etc