Project Objectives

In this project, you will be taking up the role of an HR Manager and focus on the following:

- Using given data for workforce planning regarding diversity

- Use internal data to analyse the pattern of attrition and how to reduce it

Assessment Criteria

Criteria/Skills	Marks	Meets Expectations	Does Not Meet Expectations
DIversity analysis	20 Marks	The analysis is done correctly and the corresponding screenshots have been attached. The insights are in line with the results of the analysis. The learner is able to clearly explain the problem statements, the analysis, the visualisations and the derived insights.	The analysis is done incorrectly and/or the corresponding screenshots have not been attached. The insights are not in line with the results of the analysis. The learner is not able to clearly explain the problem statements, the analysis, the visualisations and the derived insights.
Attrition Analysis	20 Marks	The analysis is done correctly and the corresponding screenshots have been attached. The insights are in line with the results of the analysis. The learner is able to clearly explain the problem statements, the analysis, the visualisations and the derived insights.	The analysis is done incorrectly and/or the corresponding screenshots have not been attached. The insights are not in line with the results of the analysis. The learner is not able to clearly explain the problem statements, the analysis, the visualisations and the derived insights.

Project Submission

Answer the questions asked in the editable file (named '**Graded Project | Submission Template**') as indicated below. The questions are mentioned in the document. It

is advised that you keep filling the template as you read the questions:

There are 4 questions in the template. You need to put your answer in the box indicated as '**Your Answer**'.

Business Problem & Datasets

You have recently joined an up and coming start-up 'Wordoid' as an HR manager. You have been allotted the task of looking after workforce requirements and employee satisfaction. Now as a well-informed HR manager, you feel that diversity within the company is a very important aspect and helps the company in productivity and long-term growth. To ensure this, your first task as an HR manager is going to be to analyse the industry data in order to benchmark the job category-wise diversity levels in terms of gender and race.

After this, you need to analyse and improve the performance of the employees. To accomplish this, you will look through the internal organisation data and look for factors impacting the performance. Further, you will understand what factors lead to the attrition of employees and how to reduce that.

Datasets

The following two datasets would be required for this project:

Diversity Data:

Diversity Data

Gender	Gender of the User
Racedesc	Race of the Employee
Position	The job that employee has
MaritalDesc	Marital Status of Employee
Department	The department in which employee works
EmpSatisfaction	Level of employment satisfaction (1 to 5)

Attrition Data:

Attrition Data

Attrition status	Did the employee leave the company? (Binary categorical variable)
Department	The employee's department

Satisfaction	Employee's satisfaction level with the job
filed_complaint	Did the employee ever file a complaint
projects	No. of projects undertaken by the employee
recently_promoted	Was the employee recently promoted
salary	Range of salary of the employee
Tenure	The employee's total tenure at the company

Assessments & Submission

Assessments

You can either use Excel/Python for this analysis. Write your insights along with screenshots of your results in the template provided and share your excel spreadsheets or python notebooks for the analysis.

Question 1 (20 Marks):

Note: As your answer to this question, you need to submit:

- *The excel or python file with your analysis*
- *Your insights and recommendations captured in the submission template provided in the first segment of this session*

The company hires people on a need to need basis and due to this, there has been some doubt over the diversity within the company. Therefore, you are assigned the task of analysing the job profiles and the diversity within them to conclusively understand the problem.

1.1 Analyse the different departments within the company and the diversity in them with respect to different races. Which race has been the most abundant in the company? Which department has low diversity? Summarise the insights derived and prospective actionables for the HR department on the basis of those insights. **(10 Marks)**

1.2 Analyse the distribution of people based on gender across the different positions of the company. Which position has the highest female to male ratio and which position has a ratio nearing 1? Summarise the insights derived and prospective actionables for the HR department on the basis of those insights. **(10 Marks)**

Question 2 (20 Marks):

Note: As your answer to this question, you need to submit:

- *The excel or python file with your analysis*
- *Your insights and recommendations captured in the submission template provided in the first segment of this session*

The company has been witnessing a growth in the attrition rate lately, and hence there has been a sense of worry within the company. Analyse the provided data to provide some insights and look for factors influencing this rate.

2.1 Use a clustering algorithm to segregate the data into different clusters. Use KModes algorithm with the number of clusters = 3. **(2 Marks)**

Note: You can use this notebook to divide the data into clusters. This has all the required code pre-written and would need you to fill up just one code block.

Clustering Attrition: Notebook

file_download**Download**

2.2 Using the excel file that you would have downloaded post clustering analysis, analyse different clusters and the attributes within them to look for the reason of attrition. For this, analyse the following attributes for the employees currently employed and the ones who left, and look for possible variation in the attributes. **(18 Marks)**

i) salary

ii) projects

iii) tenure

iv) satisfaction

v) filed_complaint

Summarise the insights derived and prospective actionables for the HR department on the basis of those insights.