**File Deliverables**

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A blue and white logo

AI-generated content may be incorrect.

**Final Data Files**

* Data files are the most crucial part of the project to make progress on.
* We have gone through a lot of datasets and finalized this dataset as these are close to our project goals.
* These files represent the **cleaned and processed datasets**, which will serve as the foundation for your application.
* All data transformations described in your Power Query scripts have been applied to ensure **consistency, readability, and usability**.

**a. Employee**

* Contains personal and demographic information with:
* Converted **education codes** (e.g., "1" → "Undergrad", "5" → "PhD")
* Standardized **education field names** for clarity (e.g., "Medical" → "Medical Studies", "Other" → "Allied Health Sciences")

**b. Job**

* Includes job-related information with:
* Renamed **job roles** (e.g., "Research Scientist" → "Clinical Research Coordinator")
* Human-readable **job levels** (e.g., "1" → "Entry Level", "5" → "Executive/Director")
* A newly calculated **“Score”** column based on specific job roles, representing job importance or complexity.

**Note:** Both data files are cleaned and ready to use, and we have tried our best so that these Data files can be understandable for both technical and non-technical.

Here is the link to the dataset <https://github.com/Vivek23170/Team9-healthcare-workforce-visuals/blob/main/HR-Employee-Attrition-All%201.xlsx>

**Note:**

* **To download the file, click the above link.**
* **Click on the “RAW” to download the Excel file.**

**2. Data Validation and Transformation Code**

Here we present all the Power Query M-Codes that we have used for transforming the original dataset to the final format.

**a. Employee table- Power Query M-Codes**

**Setting data types**

= Table.TransformColumnTypes(#"Promoted Headers",{

{"EmployeeNumber", Int64.Type}, {"Age", Int64.Type}, {"Gender", type text},

{"Education", Int64.Type}, {"EducationField", type text},

{"MaritalStatus", type text}, {"Over18", type text}

})

**Clean education field names**

= Table.ReplaceValue(#"Changed Type","Medical","Medical Studies",Replacer.ReplaceText,{"EducationField"})

= Table.ReplaceValue(#"Replaced Value","Life Sciences","Biological Sciences",Replacer.ReplaceText,{"EducationField"})

= Table.ReplaceValue(#"Replaced Value10","Marketing","Healthcare Marketing",Replacer.ReplaceText,{"EducationField"})

= Table.ReplaceValue(#"Replaced Value1","Technical Degree","Biomedical Technology",Replacer.ReplaceText,{"EducationField"})

= Table.ReplaceValue(#"Replaced Value2","Human Resources","Health Administration",Replacer.ReplaceText,{"EducationField"})

= Table.ReplaceValue(#"Replaced Value3","Other","Allied Health Sciences",Replacer.ReplaceText,{"EducationField"})

**Convert education codes to text**

= Table.TransformColumnTypes(#"Replaced Value4",{{"Education", type text}})

= Table.ReplaceValue(#"Changed Type1","1","Undergrad",Replacer.ReplaceText,{"Education"})

= Table.ReplaceValue(#"Replaced Value5","3","Bachelor's Degree",Replacer.ReplaceText,{"Education"})

= Table.ReplaceValue(#"Replaced Value6","2","Associate Degree",Replacer.ReplaceText,{"Education"})

= Table.ReplaceValue(#"Replaced Value7","4","Master’s Degree",Replacer.ReplaceText,{"Education"})

= Table.ReplaceValue(#"Replaced Value8","5","PhD",Replacer.ReplaceText,{"Education"})

**b. Job Table- Power Query Code**

**Setting data types**

= Table.TransformColumnTypes(#"Promoted Headers",{

{"Attrition", type text}, {"BusinessTravel", type text}, {"DailyRate", Int64.Type},

{"Department", type text}, {"DistanceFromHome", Int64.Type}, {"EmployeeCount", Int64.Type},

{"EmployeeNumber", Int64.Type}, {"EnvironmentSatisfaction", Int64.Type},

{"HourlyRate", Int64.Type}, {"JobInvolvement", Int64.Type}, {"JobLevel", Int64.Type},

{"JobRole", type text}, {"JobSatisfaction", Int64.Type}, {"MonthlyIncome", Int64.Type},

{"MonthlyRate", Int64.Type}, {"NumCompaniesWorked", Int64.Type}, {"OverTime", type text},

{"PercentSalaryHike", type number}, {"PerformanceRating", Int64.Type},

{"RelationshipSatisfaction", Int64.Type}, {"StandardHours", Int64.Type},

{"StockOptionLevel", Int64.Type}, {"TotalWorkingYears", Int64.Type},

{"TrainingTimesLastYear", Int64.Type}, {"WorkLifeBalance", Int64.Type},

{"YearsAtCompany", Int64.Type}, {"YearsInCurrentRole", Int64.Type},

{"YearsSinceLastPromotion", Int64.Type}, {"YearsWithCurrManager", Int64.Type}

})

**Rename job role**

= Table.ReplaceValue(#"Changed Type","Research Scientist","Clinical Research Coordinator",Replacer.ReplaceText,{"JobRole"})

**Convert and rename job levels**

= Table.TransformColumnTypes(#"Replaced Value10",{{"JobLevel", type text}})

= Table.ReplaceValue(#"Changed Type1","1","Entry Level",Replacer.ReplaceText,{"JobLevel"})

= Table.ReplaceValue(#"Replaced Value11","2","Associate",Replacer.ReplaceText,{"JobLevel"})

= Table.ReplaceValue(#"Replaced Value12","3","Mid-Senior",Replacer.ReplaceText,{"JobLevel"})

= Table.ReplaceValue(#"Replaced Value13","4","Manager",Replacer.ReplaceText,{"JobLevel"})

= Table.ReplaceValue(#"Replaced Value14","5","Executive/Director",Replacer.ReplaceText,{"JobLevel"})

**Add a job score column**

= Table.AddColumn(#"Added Conditional Column", "Score", each

if [JobRole] = "Clinical Research Coordinator" then 4

else if [JobRole] = "Health Services Manager" then 5

else if [JobRole] = "Healthcare HR Specialist" then 4

else if [JobRole] = "Healthcare Representative" then 3

else if [JobRole] = "Hospital Operations Director" then 5

else if [JobRole] = "Manufacturing Director" then 4

else if [JobRole] = "Medical Device Sales Representative" then 3

else if [JobRole] = "Medical Laboratory Technologist" then 3

else if [JobRole] = "Pharmaceutical Medical Device Sales Representative" then 3

else 0)

**DAX formulas for creating new columns**

**DAX from the employee table**

**Attrition Rate by Department**

Attrition Rate by Department =

CALCULATE(

  DIVIDE(

    COUNTROWS(FILTER('Job', 'Job'[Attrition] = "Yes")),

    COUNTROWS('Job')

  ),

  ALLEXCEPT(Job,Job[Department])

) \* 100

**Attrition Count**

AttritionCount =

CALCULATE(

    COUNTROWS('Job'),

    'Job'[Attrition] = "Yes"

)

**Avg Monthly Salary**

AvgMonthlyIncome =

CALCULATE(

    AVERAGE('Job'[MonthlyIncome]),

    ALLEXCEPT('Job', 'Job'[JobRole])

)

**Readiness Score**

**ReadinessScore =**

VAR SatisfactionWeight = AVERAGE(Job[EnvironmentSatisfaction]) \* 0.4

VAR EducationWeight = AVERAGE(Employee[EducationNumeric]) \* 0.3

VAR AgeWeight = AVERAGE(Employee[Age]) \* 0.3

RETURN SatisfactionWeight + EducationWeight + AgeWeight

**Revenue HR**

Revenue\_HR =

CALCULATE(

    AVERAGE('Job'[MonthlyIncome]) \*

    COUNTROWS(FILTER('Job', 'Job'[Attrition] = "Yes")),

    'Job'[Department] = "Human Resources"

) \* 0.2

**DAX from the Job table**

**Work-Life balance**

% High Work-Life Balance =

DIVIDE(

    COUNTROWS(FILTER('Job', 'Job'[WorkLifeBalance] = 4)),

    COUNTROWS**('Job'),**

**0**

**Avg Daily Rate**

AvgDailyRate = AVERAGE(Job[DailyRate])

**Count of employees**

CountEmployees = COUNT(Job[EmployeeNumber])

**Final Application: Power BI platform**

We have chosen **Power BI** as the platform to build your interactive HR analytics dashboard. Usually, this application provides business users with visual insights into employee attrition, job satisfaction, income trends, and departmental breakdowns based on the cleaned and transformed data.

**The dashboard contains all the following information**

**Interactive Filters:**

* Department
* Job Level
* Attrition (Yes/No)
* Education or Gender (if applied)

**Visuals:**

* Bar charts for Attrition Count by Department and Job Role
* Pie charts or donut visuals for Attrition by Gender or Education
* Line chart for Average Monthly Income vs Years at Company
* KPI cards showing Total Employees, Attrition Rate, Avg. Satisfaction
* Slicers for dynamic filtering across all visuals

**This is the navigation link for Dashboard** [**Click here to download the Power BI file**](https://github.com/Vivek23170/Team9-healthcare-workforce-visuals/blob/main/Team9_MRP_DAshboard.pbix)