**Customer Churn Analysis**

**Data Processing**

**Dataset Cleaning: -**

* There were some rows with null values at the end of each individual dataset, So I dropped those rows.
* Credit Score null values are handled by replacing with mean value of Credit Score column.
* Balance null values are handled by replacing with mean value of Balance column.

**Merging: -**

* After cleaning the individual datasets, I performed a merge operation to add all the datasets.
* For merge operation I used CustomerId and RowNumber as key.
* ***Note: -*** I cross verified RowNumber in all the individual datasets and found that all row numbers are unique with respect to each unique CustomerId. So, I used the RowNumber with CustomerId in merge operation.

**Data Cleaning: -**

* There were some large values present in the Age column, so I replaced them with a default large value i.e., 105.

**Data Filtering: -**

* In the assignment there was a requirement to filter the data based on credit score.

**350<=CreditScore<=850**

* So, I filtered the dataset to fulfil the above requirement.

**Data Analysis**

After cleaning the data, I performed some data analysis techniques to get some values out of the data. I figured out that there is total **2038** customer who exited.

**Gender wise description of Exited/NonExited customers is given below: -**

Table

Description automatically generatedChart, bar chart

Description automatically generated

**Geographical description of Exited/NonExited customers: -**

Table

Description automatically generatedChart, bar chart

Description automatically generated

**Final Analysis: -**

|  |  |  |
| --- | --- | --- |
| Total Customers | Customers Exit Count | Customers Not Exit Count |
| 10000 | 2038 | 7962 |

|  |  |  |  |
| --- | --- | --- | --- |
| Gender wise Exit Count | Female | Male | Neutral |
| Exit Count | 1136 | 898 | 4 |
| Not Exit Count | 3402 | 4556 | 4 |

|  |  |  |  |
| --- | --- | --- | --- |
| Geographically Exit Count | Central | East | West |
| Exit Count | 412 | 816 | 810 |
| Not Exit Count | 2064 | 1695 | 4203 |

|  |  |  |  |
| --- | --- | --- | --- |
| Avg Age of Customers | Female | Male | Neutral |
| Avg Age of Exited Customers | 44.79 | 44.87 | 46.5 |
| Avg Age of Not Exited Customers | 37.37 | 37.44 | 45.75 |

|  |  |  |  |
| --- | --- | --- | --- |
| Avg Salary of Customers | Female | Male | Neutral |
| Avg Salary of Exited Customers | 102866.03 | 99810.13 | 95028.86 |
| Avg Salary of Not Exited Customers | 99830.92 | 99648.24 | 129907.44 |

|  |  |  |  |
| --- | --- | --- | --- |
| Avg Credit Score of Customers | Female | Male | Neutral |
| Avg Credit Score of Exited Customers | 646.83 | 643.59 | 630.75 |
| Avg Credit Score of Not Exited Customers | 652.191 | 651.55 | 652.75 |