**Business Objective :** To predict customer behavior to minimize customer churn.

**Business Constraints:** Inadequate competitive edge over the available products and offers in the market.

**Data Dictionary**

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| --- | --- | --- | --- |
| **Name of the feature** | **Description** | **Type** | **Relevance** |
| Customer ID | Id assigned the the customer | Nominal; Non-numeric | Irrelevant,  not useful for analysis |
| Count | Count of customer | Numeric | Relevant,  useful for analysis |
| Quarter | Here represents quarter 3 data | Non-Numeric | Irrelevant,  useful for analysis |
| Referred a Friend | Whether the customer has referred a friend | Non-numeric | Relevant,  useful for analysis |
| Number of Referrals | Number of Referrals given by the customer | Numeric | Relevant,  useful for analysis |
| Tenure in Months | Number of months the customer has been with the company | Numeric | Relevant,  useful for analysis |
| Offer | Whether and what offer has been given to the customer | Non-Numeric | Relevant,  useful for analysis |
| Phone Service | Whether the customer uses the company for phone service | Non-Numeric | Relevant,  useful for analysis |
| Avg Monthly Long Distance Charges | Average monthly long distance charges levied to the customer | Numeric | Relevant,  useful for analysis |
| Multiple Lines | Whether the customer has multiple phone lines | Non-Numeric | Relevant,  useful for analysis |
| Internet Service | Whether the customer uses the company for internet service | Non-Numeric | Relevant,  useful for analysis |
| Internet Type | Type of internet service availed | Non-Numeric | Relevant,  useful for analysis |
| Avg Monthly GB Download | Avg Monthly GB Download done by the customer | Numeric | Relevant,  useful for analysis |
| Online Security | Whether the customer uses the online security service | Non-Numeric | Relevant,  useful for analysis |
| Online Backup | Whether the customer uses the online backup service | Non-Numeric | Relevant,  useful for analysis |
| Device Protection Plan | Whether the customer uses the device protection service | Non-Numeric | Relevant,  useful for analysis |
| Premium Tech Support | Whether the customer uses the tech support service | Non-Numeric | Relevant,  useful for analysis |
| Streaming TV | Whether the customer uses the TV streaming service | Non-Numeric | Relevant,  useful for analysis |
| Streaming Movies | Whether the customer uses the movie streaming service | Non-Numeric | Relevant,  useful for analysis |
| Streaming Music | Whether the customer uses the music streaming service | Non-Numeric | Relevant,  useful for analysis |
| Unlimited Data | Whether the customer uses the Unlimited Data service | Non-Numeric | Relevant,  useful for analysis |
| Contract | Whether the customer is on a month-to-month, one year, or two year contract | Non-Numeric | Relevant,  useful for analysis |
| Paperless Billing | Whether the customer uses paperless billing | Non-Numeric | Relevant,  useful for analysis |
| Payment Method | Whether the customer pays by electronic check, mailed check, automatic bank transfer, or credit card | Non-Numeric | Relevant,  useful for analysis |
| Monthly Charge | The amount the customer is charged each month | Numeric | Relevant,  useful for analysis |
| Total Charges | The total amount the customer has been charged in Quarter 3 | Numeric | Relevant,  useful for analysis |
| Total Refunds | The total amount of refunds given to the customer in Quarter 3 | Numeric | Relevant,  useful for analysis |
| Total Extra Data Charges | Amount charged to the customer for additional internet services used in Quarter 3 | Numeric | Relevant,  useful for analysis |
| Total Long Distance Charges | Amount charged as Long distance charges to the customer in Quarter 3 | Numeric | Relevant,  useful for analysis |
| Total Revenue | Total revenue generated against each customer in the Quarter 3 | Numeric | Relevant,  useful for analysis |

We can make 5 clusters of this dataset.

**Inferences** : Cluster 4 customers are highest revenue generating but are the smallest group of customers which are with the company for longest period. At the same time Cluster 1 stands at third position in revenue generation and has highest customer count, and are newest to the company. This cluster should always be checked and focused upon.

Cluster 0 contributes second highest revenue and has same ranking in count of customers. Cluster 2 & 3 are generating very less revenue and have least customer base, company should try to float some offers to get better business from these customers.