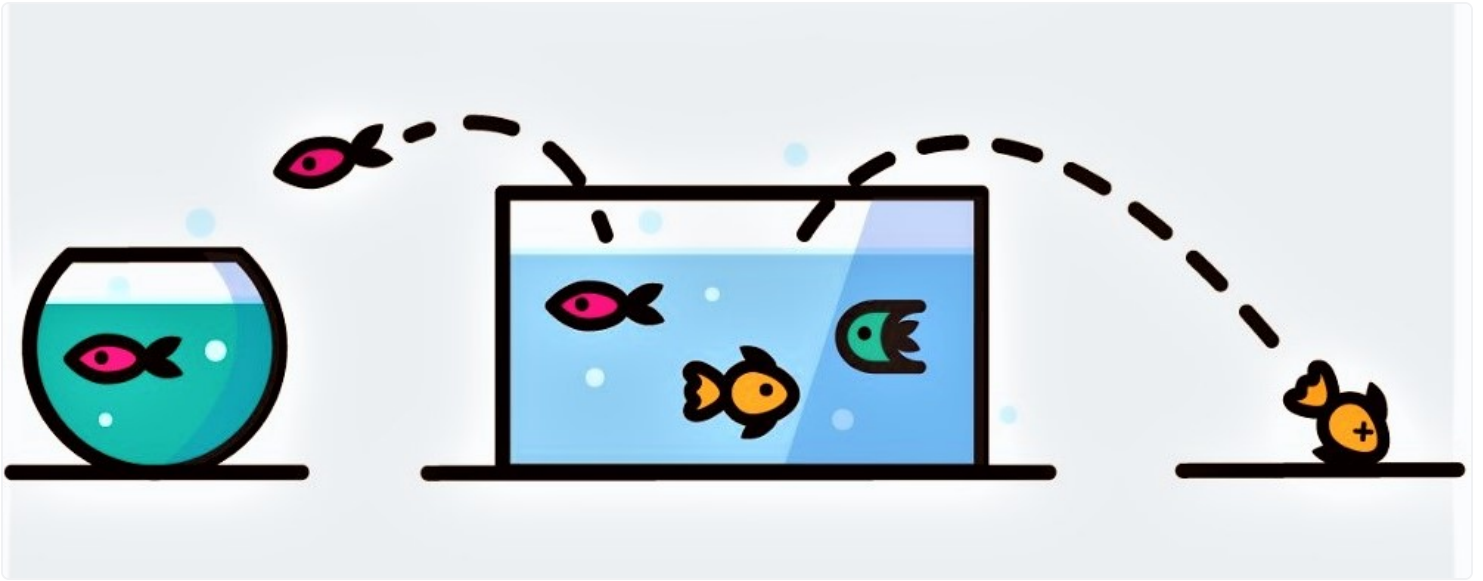


Comprehensive Report: Telecom Customer Churn Analysis

Telecom Customer Churn Prediction



What is Customer Churn?

Customer churn is defined as when customers or subscribers discontinue doing business with a firm or service.

Customers in the telecom industry can choose from a variety of service providers and actively switch from one to the next. The telecommunications business has an annual churn rate of 15-25 percent in this highly competitive market.

Individualized customer retention is tough because most firms have a large number of customers and can't afford to devote much time to each of them. The costs would be too great, outweighing the additional revenue. However, if a corporation could forecast which customers are likely to leave ahead of time, it could focus customer retention efforts only on these "high risk" clients. The ultimate goal is to expand its coverage area and retrieve more customers loyalty. The core to succeed in this market lies in the customer itself.

Customer churn is a critical metric because it is much less expensive to retain existing customers than it is to acquire new customers.

To detect early signs of potential churn, one must first develop a holistic view of the customers and their interactions across numerous channels. As a result, by addressing churn, these businesses may not only preserve their market position, but also grow and thrive. More customers they have in their network, the lower the cost of initiation and the larger the profit. As

a result, the company's key focus for success is reducing client attrition and implementing effective retention strategy.

Business Aspects

Customers usually do not decide to switch to another competitor instantly, but rather over a period (especially applicable to high-value customers). In churn prediction, we assume that there are three phases of customer lifecycle:

The **'good'** phase: In this phase, the customer is happy with the service and behaves as usual.

The **'action'** phase: The customer experience starts to sore in this phase, for e.g. he/she gets a compelling offer from a competitor, faces unjust charges, becomes unhappy with service quality etc. In this phase, the customer usually shows different behavior than the 'good' months. Also, it is crucial to identify high-churn-risk customers in this phase, since some corrective actions can be taken at this point

The **'churn'** phase: In this phase, the customer is said to have churned. You define churn based on this phase. Also, it is important to note that at the time of prediction, this data is not available to you for prediction. Thus, after tagging churn as 1/0 based on this phase, you discard all data corresponding to this phase.

Dataset Overview

The Telecom Churn Rate Dataset provides comprehensive information on customer demographics, service usage, contract details, and churn status. It includes customer ID, gender, senior citizen status, partner and dependent status, service usage metrics (e.g., phone service, internet service), contract types, payment methods, monthly charges, total charges, tenure, customer satisfaction metrics, and churn status.

Objectives:

- Finding the % of Churn Customers and customers that keep in with the active services.
- Analyzing the data in terms of various features responsible for customer Churn.

Dataset:

The data set includes information about:

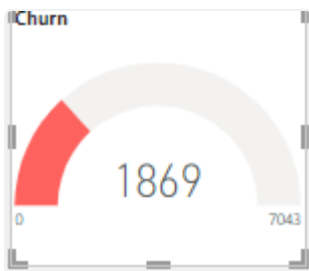
- Customers who left within the last month – the column is called Churn
- Services that each customer has signed up for – phone, multiple lines, internet, online

security, online backup, device protection, tech support, and streaming TV and movies

- Customer account information – how long they've been a customer, contract, payment method, paperless billing, monthly charges, and total charges
- Demographic info about customers – gender, age range, and if they have partners and dependents.

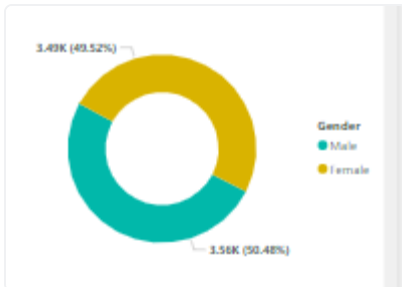
Few glimpses of Analysis:

1. Churn distribution:



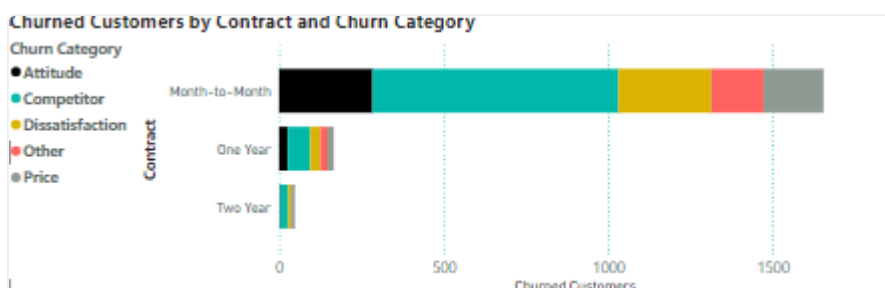
1869 of customers switched to another firm.

2. Distribution with respect to gender:



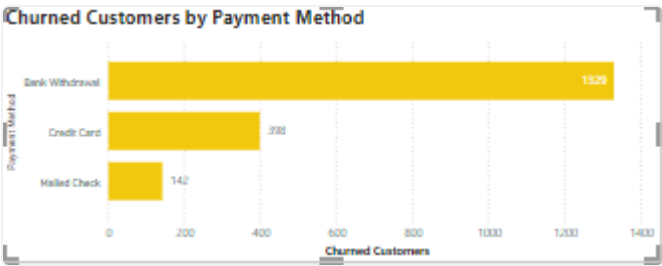
There is negligible difference in customer percentage/count who changed the service provider. Both genders behaved in similar fashion when it comes to migrating to another service provider/firm.

3. Customer Contract distribution:



About 75% of customer with Month-to-Month Contract opted to move out as compared to 13% of customers with One Year Contract and 3% with Two Year Contract.

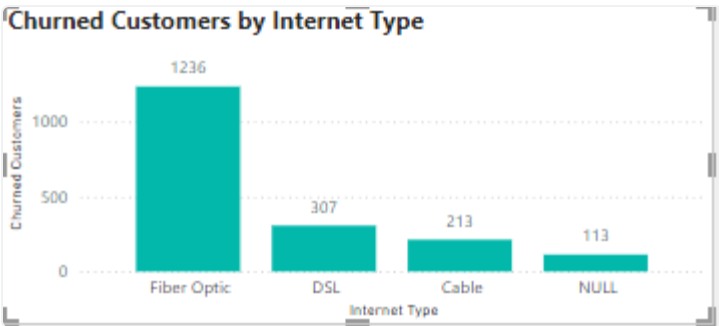
4. Payment Methods:



Major customers who moved out were having Bank withdraw as Payment Method. Customers who opted for Credit-Card automatic transfer or Bank Automatic Transfer and Mailed Check as Payment Method were less likely to move out.

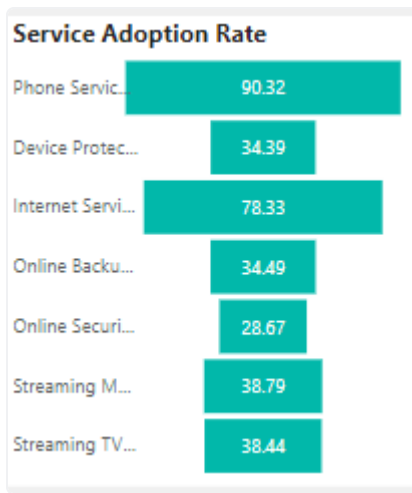
5. Internet services:

Several customers choose the Fiber optic service and it's also evident that the customers who use Fiber optic have high churn rate, this might suggest a dissatisfaction with this type of internet service. Customers having DSL service are majority in number and have less churn rate compared to Fibre optic service.



6. Service Adoption Rate:

As shown in following graph, most customers use Phone service.

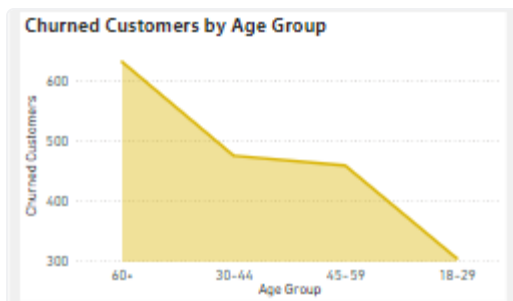


7. Senior Citizen:

Most of the senior citizens churn; the number of senior citizens are very less in over all customer base.



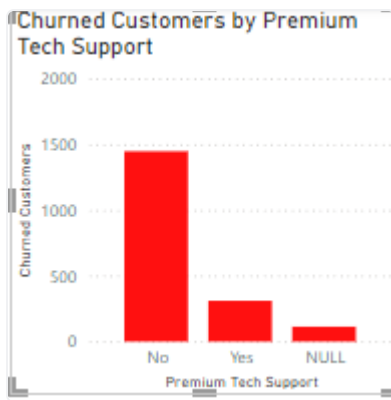
8. Churned Customers by Age group:



As Shown in the figure most of senior citizen churn rate is only high.

9. Tech support:

As shown in following chart, customers with no Tech Support are most likely to migrate to another service provider.



Insights:

- Customers on a Two-Year contract, have been with the company for a long, while most of the customers on a Month-to-Month contract joined the company.
- The company is at risk of losing recently joined customers. based on the results from the analysis.. if they decided to month-to-month contract.
- 7043 customers are at the risk of churn. and The churn rate is 27% and yearly charges are \$16.06M charges. and Monthly Charges are \$456.12K monthly charges.
- Most of the churned customers did not sign up for Online Security and tech support and also did not sign up for Phone Services.
- A lot of customers had an issue with Fiber Optic. Up to 42% of the customers churned were using Fiber Optic as their Internet Services.

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Recommendations:

Based on the insights gained from the Telecom Churn Rate Dataset, here are actionable recommendations:

Targeted Marketing: Tailor marketing campaigns based on demographic insights to address specific customer segments vulnerable to churn.

Service Enhancements: Improve service offerings, especially internet reliability and streaming quality, to enhance customer satisfaction and retention.

Contract Strategies: Encourage longer-term contracts with incentives to reduce churn associated with month-to-month contracts.

Payment Methods: Promote alternative payment methods to electronic checks to potentially reduce churn rates.

Customer Support: Enhance customer support systems, particularly for administrative issues, to improve overall service satisfaction.