

Executive Summary of Customer Churn EDA

Overview

This report presents an Exploratory Data Analysis (EDA) on a dataset related to customer churn. The dataset contains various demographic, service, and account information about customers. The goal of the analysis is to identify patterns and factors influencing customer churn.

Dataset Information:

- **Total Records:** 7,043 customers
- **Columns:** 21 attributes, including customer demographics, service details, payment methods, and churn status

Key Insights

1. Churn Rate

- **Overall churn rate:** 26.54%

This means that approximately one-fourth of the customers have discontinued their services.

2. Demographic Factors

a. Gender

- Male and female customers have similar churn rates, indicating that gender is not a significant factor.

b. Senior Citizens

- **Churn rate for senior citizens:** 41.1%
- **Churn rate for non-senior citizens:** 23.3%

Senior citizens are more likely to churn compared to younger customers.

3. Service-Related Factors

a. Tenure (Duration of Service)

- Customers with shorter tenures (1-2 months) are more likely to churn.
- Long-term customers tend to remain loyal.

b. Contract Type

- **Month-to-month contracts:** 42% churn rate
- **One-year contracts:** 11% churn rate
- **Two-year contracts:** 3% churn rate

Customers on month-to-month contracts are far more likely to churn compared to those on longer-term contracts.

c. Internet Service

- Customers without internet services have lower churn rates.
- DSL users churn less than fiber optic users.

4. Payment Method

- Customers using **electronic checks** have the highest churn rate.
- Payment methods like credit cards and bank transfers have lower churn rates.

5. Additional Services

Customers who subscribe to additional services like online security, device protection, and tech support are less likely to churn. For example:

- **Churn rate for customers with tech support:** 14%
- **Churn rate for customers without tech support:** 34%

Visual Insights

- **Pie Chart:** Showed that 26.54% of customers have churned.
- **Stacked Bar Chart:** Highlighted that senior citizens have a much higher churn rate.
- **Histograms:** Demonstrated that short-tenure customers are more prone to churn.

Conclusion

The analysis indicates that customer churn is significantly influenced by contract type, payment method, and tenure. To reduce churn, it is advisable to:

- Encourage long-term contracts.
- Provide incentives for senior citizens to remain loyal.
- Promote secure and convenient payment methods like credit cards.
- Offer additional services to improve customer retention.
- Offer additional services to improve customer retention, particularly tech support and device protection, which have shown the highest impact on reducing churn rates based on the analysis.

By addressing these key areas, the company can reduce churn and improve customer retention.