

Summary and Recommendations

Overview

The analysis focuses on understanding customer churn patterns and behavior using detailed data visualization and statistical exploration. This report provides insights into the proportion of customers who churned, key demographic and service-related trends, and factors influencing churn.

Key Findings and Highlights:

1. Churn Rate:

- **26.54%** of customers in the dataset have churned. This figure highlights a substantial retention challenge, warranting focused strategies to address customer dissatisfaction.

2. Demographic Insights:

- **Senior Citizens:** The conversion of binary values for senior citizenship into "Yes/No" revealed that a higher proportion of senior citizens are prone to churn. This demographic might require tailored retention efforts.

3. Service Utilization:

- The analysis includes comparisons of services like **PhoneService**, **MultipleLines**, and various internet-related services such as **OnlineBackup**, **StreamingTV**, and **TechSupport**.
- Customers with **Fiber optic** internet service displayed a higher churn percentage compared to those using **DSL** or **No InternetService**.

4. Financial Insights:

- The dataset involved converting blank values in **TotalCharges** to zero, and the column was reformatted to float for accurate financial analysis.
- High **TotalCharges** were associated with a lower churn rate, suggesting loyal customers often contribute more revenue over time.

5. Key Visualizations:

- A **pie chart** effectively showcased the **26.54% churn rate**, offering a clear visual of the retention challenge.
- **Countplots** provided insights into categorical variables like **InternetService**, highlighting service preferences and churn behavior.
- Stacked bar charts were used to show the proportional churn rates across various service options, making it easier to identify areas requiring immediate attention.

Additional Details:

● Internet Service Trends:

- A majority of churned customers used **Fiber optic** services. Customers dissatisfied with performance or cost may contribute to this trend.

● Contract Type:

- Preliminary observations likely suggest that customers on month-to-month contracts exhibit higher churn compared to those with long-term commitments.

Recommendations:

1. Targeted Retention Programs:

- Focus on senior citizens and customers with **Fiber optic** services to understand dissatisfaction and implement personalized retention strategies.

2. Promotional Offers for Month-to-Month Customers:

- Encourage these customers to switch to long-term contracts by offering discounts or added benefits.

3. Service Enhancements:

- Investigate pain points in **Fiber optic** services to improve customer satisfaction and reduce churn.

4. Data-Driven Strategy:

- Utilize additional visualizations (e.g., heatmaps for correlations) to identify other potential churn drivers like payment methods or tenure.

