

# Telco Customer Churn Analysis summary

Diving into my first EDA project, I took a close look at a telco customer dataset to uncover trends around customer churn. The goal? Understand which factors influence whether a customer stays or leaves. Here's what the data revealed:

## 1. Understanding the Data

- The dataset includes 21 columns capturing details on demographics, service usage, contract types, and payment methods, as well as churn status.
- Basic checks showed no missing values (once empty cells in TotalCharges were replaced with zero), and I confirmed no duplicate entries among customer IDs.

## 2. Initial Patterns and Percentages

- **Overall Churn Rate:** Around 26.5% of customers have churned. This basic churn rate provides a benchmark for spotting higher or lower churn among subgroups.

## 3. Insights by Demographics

- **Gender:** Churn rates between male and female customers are fairly even, with no strong indication that gender plays a role in churn likelihood.
- **Senior Citizens:** Churn is more common among senior customers. This could suggest a need for targeted strategies to better meet their needs or support them with simpler service options.

## 4. Service Usage and Churn Behavior

- **Internet and Phone Services:** The data indicates that customers with DSL internet or phone services are less likely to churn. On the flip side, customers who don't use services like Online Backup or Tech Support are more likely to leave. This suggests that adding or emphasizing these services might boost retention.
- **Streaming and Security Services:** Customers using services like StreamingTV, StreamingMovies, or Online Security show lower churn rates, reinforcing that customers tend to stay when they feel they're getting extra value.

## 5. Contract Types and Churn

- **Month-to-Month Contracts:** Customers on monthly contracts churn at a much higher rate. In contrast, those on annual or bi-annual contracts tend to stay. This aligns with the idea that the longer a customer commits, the less likely they are to leave.
- **Paperless Billing:** Interestingly, customers on paperless billing also show a higher churn rate. Perhaps these customers are more tech-savvy and open to exploring other

providers, or maybe there's something about the experience of paperless billing that we could improve.

## 6. Payment Method Patterns

- **Electronic Checks:** Customers paying with electronic checks have the highest churn rates among payment methods. This might hint at potential issues or dissatisfaction with this payment process, which could be worth exploring further.

## 7. Impact of Tenure on Churn

- **Short vs. Long Tenure:** Tenure has a significant effect on churn. Those with shorter tenures (e.g., new customers) are much more likely to leave, while long-term customers tend to stay. This finding emphasizes the importance of a solid onboarding experience and early engagement to help new customers feel committed.

## Wrapping It Up

From this EDA, it's clear that several factors—like contract type, tenure, and service usage—impact customer loyalty. This initial analysis provided a solid understanding of what to focus on if we want to reduce churn and improve customer satisfaction.