

Analysis Plan Research Questions-

Dataset - WA_Fn-UseC_-Telco-Customer-Churn

1. What is the relationship between contract type and customer churn, and how does it vary with tenure?

Variables involved:

1. Contract (Month-to-month, One year, Two year)
2. Churn (Yes/No)
3. tenure (in months)

Reasoning: This question examines how customer retention is influenced by the type of contract, and whether longer tenures correlate with lower churn rates for different contract types. It aims to identify patterns that might help the company adjust contract offerings or loyalty programs to improve retention.

2. How do monthly charges relate to churn rates, and is this relationship influenced by payment methods?

Variables involved:

1. MonthlyCharges (in USD)
2. Churn (Yes/No)
3. PaymentMethod (Electronic check, Mailed check, Bank transfer, Credit card)

Reasoning: This question explores whether higher monthly charges are associated with increased churn and whether the effect differs across payment methods. The insights could guide adjustments in pricing strategies or targeted campaigns based on payment preferences.

3. Is there a significant relationship between the type of internet service and the adoption of additional services (like OnlineSecurity or StreamingTV or StreamingMovies), and how do these affect churn?

Variables involved:

1. InternetService (DSL/Fiber optic/No)
2. OnlineSecurity (Yes/No/No internet service)
3. StreamingTV (Yes/No/No internet service)
4. StreamingMovies (Yes/No/No internet service)
5. Churn (Yes/No)

Reasoning: This question investigates whether certain internet service types lead to greater adoption of additional services and how these choices impact churn. It provides insights into cross-selling opportunities and retention strategies by offering bundled services.

4. What is the relationship between senior citizen status, paperless billing adoption, and churn, and does this relationship differ by payment method?

Variables involved:

- 1.SeniorCitizen (0 = No, 1 = Yes)
- 2.PaperlessBilling (Yes/No)
- 3.Churn (Yes/No)
- 4.PaymentMethod (Electronic check, Mailed check, Bank transfer, Credit card)

Reasoning: This question explores whether senior citizens are more likely to churn based on their preference for paperless billing and if this pattern varies by payment method. It provides insights into whether targeted communication or billing options might reduce churn among senior citizens.

5. How does the presence of dependents and tenure length influence customer churn, and does this relationship differ by gender?

Variables involved:

- 1.Dependents (Yes/No)
- 2.tenure (in months)
- 3.Churn (Yes/No)
- 4.gender (Male/Female)

Reasoning: This question investigates whether customers with dependents are more likely to stay longer with the company and how gender plays a role in this relationship. The goal is to identify if marketing efforts should focus differently based on family status and gender to reduce churn.