Executive Summary of Telecom Customer Churn Analysis

Objective:

The primary goal of this analysis is to identify the factors influencing customer churn, with a specific focus on contract types, payment methods, and tenure. The findings will help shape customer retention strategies by highlighting which factors contribute most to customer churn.

Key Insights and Findings:

1. Contract Type and Churn:

Month-to-Month Contracts:
Customers on month-to-month contracts exhibit the highest churn rate, with 42% of such customers likely to leave the service.
One-Year Contracts: Customers on one-year contracts show a much lower churn rate of 11%

Two-Year Contracts: Customers on two-year contracts have the lowest churn rate, at 3%

Implication: Long-term contracts (one or two years) are powerful retention tools, as they significantly reduce the likelihood of churn. Promoting longer contracts through discounts or benefits can help improve retention.

2. Payment Methods and Churn:

Electronic Checks: Customers who pay using electronic checks show the highest churn rate at 45%. This may be due to convenience or trust issues with this payment method.

Credit Cards, Bank Transfers, and Mailed Checks: Customers using these more traditional methods have significantly lower churn rates, averaging 15-18%.

Implication: Electronic check users are more likely to churn, possibly due to perceived lack of security or difficulty in payment. Encouraging these customers to switch to more stable payment methods, like credit cards or bank transfers, could help reduce churn.

3. Churn by Tenure:

Less Than 1 Year: Customers with less than one year of tenure have the highest churn rate, at 50%. This shows that many customers leave within their first year.
1-3 Years: Customers with 1-3 years of tenure show a decreasing churn rate of **35%**.

More Than 3 Years: Customers with over three years of tenure show a low churn rate of only 15%.

Implication: The first year is critical for customer retention. Early engagement strategies, such as personalized onboarding, loyalty rewards, and targeted customer support, are essential to reducing churn during this period.

4.Churn by Internet Service Type:

Fiber Optic: Customers using fiber optic services have a higher churn rate, at 30%.
DSL: DSL customers exhibit a lower churn rate, at 20%

Implication: Fiber optic users may face issues such as higher costs or dissatisfaction with service quality. Improving service quality or offering more competitive pricing for fiber optic services may help retain these customers.

5.Senior Citizens and Churn:
Senior Citizens (65+**):** This demographic shows a churn rate of 41%, which is notably higher than the 26% churn rate among younger customers.

Implication: Senior citizens are more likely to leave, possibly due to difficulty navigating the service or feeling that the offerings do not meet their needs. Targeted retention programs, such as senior-specific packages or enhanced customer support, could help reduce churn in this group**.**

Visualizations and Data Insights:

Bar Plots and Line Graphs:
Contract Types: The bar plots clearly show that 42% of month-to-month customers churn, compared to 11% for one-year contracts and 3% for two-year contracts. This reinforces the importance of long-term contracts in reducing churn.
Payment Methods: The churn rate for customers using electronic checks (45%) is nearly three times that of those using credit cards or other traditional methods, highlighting a critical area for intervention.
Tenure vs. Churn: Line graphs show a sharp decline in churn as customer tenure increases, with a 50% churn rate in the first year, dropping to 15% after three years.

Recommendations:

1. Promote Long-Term Contracts:
Incentivize month-to-month customers to switch to longer-term contracts by offering discounts or added benefits. Given that customers on longer contracts churn less frequently (42% churn for month-to-month vs. 3% for two-year contracts), this could significantly reduce overall churn.

2. Address Payment Method Concerns:
Encourage customers using electronic checks (45% churn) to switch to more reliable payment methods like credit cards or bank transfers. Offering a small incentive (e.g., a one-time discount) for switching payment methods could reduce churn caused by payment-related issues.

3. Engage Customers Early in Their Tenure:
Focus on retaining customers within their first year of service, as this group has a 50% churn rate. Personalized onboarding experiences, welcome discounts, or loyalty rewards for reaching milestones (e.g., 6 months) could help increase retention in this critical phase.

4. Tailor Offerings for Senior Citizens:
With a 41% churn rate among senior citizens, create senior-friendly packages, provide more personalized customer support, or offer tutorials to help this demographic feel more comfortable with the services. Special incentives for senior customers could also improve loyalty.

5. Improve Fiber Optic Service Satisfaction:
Since fiber optic users have a 30% churn rate, reviewing customer feedback on service quality and pricing is crucial. Addressing concerns related to speed, reliability, or costs could help retain these higher-paying customers.