Executive Summary:

The customer churn analysis provides valuable insights into the factors influencing churn within a telecommunications company. The analysis examines customer demographics, tenure, service subscriptions, contract types, and payment methods to pinpoint key areas of churn. Below is a detailed breakdown of the findings:

1. Churn Distribution and General Trends:

- Overall, **26.5%** of the customers have churned, while **73.5%** remain loyal. This significant churn rate emphasizes the need to focus on retention strategies to reduce customer attrition.

2. Service-Related Insights:

- **Internet Service**:
  - Customers with **Fiber Optic** internet service are more prone to churn, with about **42%** of Fiber Optic customers churning compared to just **15%** of DSL users.
  - Customers without internet services have the lowest churn rate, indicating these are likely customers who are less dependent on internet connectivity for their services.
- **Online Security**:
  - Among customers without **Online Security**, **46%** have churned, compared to only **20%** of those with the security service. This points to the importance of perceived digital safety and protection.
- **Tech Support**:
  - A lack of **Tech Support** correlates with higher churn, with about **43%** of those without Tech Support leaving, whereas only **18%** of customers with active Tech Support services churned.

3. Contract Type Impact:

- Customers on **month-to-month contracts** are most vulnerable to churn, with **42%** of them leaving the service.
- In contrast, customers on **one-year contracts** have a churn rate of **11%**, while those on **two-year contracts** fare the best, with only **3.9%** churn. These figures underscore the stabilizing effect of long-term contracts.
- Offering incentives for customers to switch from month-to-month contracts to longer-term contracts may be a key strategy to reduce churn.

4. Payment Method Influence:

- **Electronic check payments** exhibit the highest churn rate at **39%**. Customers using **automatic bank transfers** or **credit cards** for payment show significantly lower churn rates at **12%** and **15%**, respectively. This may indicate that simplifying payment methods and increasing automatic payments could reduce churn by ensuring seamless transactions.

5. Demographics and Tenure:

- **Tenure**:
  - Customers with shorter tenures (less than 12 months) churn at a rate of approximately **48%**. In contrast, those with tenures of more than 36 months have a churn rate as low as **16%**. This suggests that the first year of service is critical in retaining customers.
- **Senior Citizens**:
  - Senior citizens are more likely to churn, with **42%** of this demographic group leaving, compared to **22%** for non-senior citizens. Special retention programs or tailored services for older customers could help lower this rate.

6. Bundled Services and Churn:

- Customers with **Multiple Lines** or **bundled services** (e.g., StreamingTV and StreamingMovies) churn less frequently. For example, customers with both

StreamingTV and **StreamingMovies** have a churn rate of only **17%**, compared to **38%** for those without these services.

- This implies that customers who subscribe to a combination of services (phone, internet, TV) feel more integrated into the company's ecosystem, leading to higher retention.

7. Dependents and Partner Status:

- **Customers with dependents** and **partners** churn at a lower rate (around **20%**), compared to **single, non-dependent customers**, who churn at **34%**. This suggests that customers with more stable family situations might value continuity of service more and are less likely to switch.