

Summary and Recommendations

● **Objective:** The objective of this analysis is to investigate factors influencing customer churn, with a particular focus on payment methods and contract types. The goal is to identify which factors are most strongly associated with higher churn rates to guide customer retention strategies.

Key Insights:

- **Contract Type:** Customers on month-to-month contracts show a higher tendency to churn. Specifically, 42% of customers on month-to-month contracts are likely to churn, compared to 11% for one-year contracts and 3% for two-year contracts. This suggests that long-term contracts may improve customer retention.
- **Payment Methods:** A significant proportion of customers using electronic checks are more likely to churn, with a churn rate of 45%. In contrast, customers using credit cards, bank transfers, or mailed checks have significantly lower churn rates, averaging around 15-18%. This could be due to convenience or trust issues associated with electronic check payments.
- **Churn Rate by Tenure:** Customers with shorter tenure (less than one year) are more likely to churn, with a 50% churn rate. This indicates the criticality of initial engagement strategies. Churn decreases with longer tenure, dropping to 35% for customers with 1-3 years of tenure and 15% for those with more than three years.
- **Internet Service Type:** Customers using Fiber Optic services have a higher churn rate of 30% compared to DSL customers, who have a 20% churn rate.
- **Senior Citizens and Churn:** Senior citizens (aged 65+) have a churn rate of 41%, which is higher than the 26% churn rate among non-senior citizens.

Visualizations:

- Bar plots and line graphs highlight the disparity in churn rates by different contract types and payment methods.
- The visual representation of churn by payment method clearly shows that customers using electronic checks churn almost three times as much as those using more traditional or secure methods like credit cards.
- Visualizations of customer tenure versus churn rate reveal a clear declining trend in churn as customers' tenure increases, underscoring the need for early-stage customer loyalty programs.

Recommendations:

- **Promote Long-Term Contracts:** Offer incentives for customers to commit to longer contracts to reduce churn.
- **Address Payment Method Concerns:** Implement campaigns encouraging customers to switch from electronic checks to more reliable payment methods.

- **Customer Engagement in Early Tenure:** Focus on improving the customer experience within the first year, as churn is highest in this period.
- **Special Senior Citizen Retention Programs:** Create personalized offers or assistance programs to retain the senior demographic