

# Summary and Recommendations

This customer churn analysis explores the primary factors associated with customer attrition in a telecommunications company, utilizing a dataset of 7,043 customers. Through data preparation and detailed visualizations, this analysis uncovers customer characteristics linked to higher churn rates, quantifying these relationships to guide strategic retention initiatives.

## Key Findings

1. **Overall Churn Rate:** The analysis reveals that 26.54% of the customer base has churned. This high churn rate emphasizes the importance of identifying and addressing factors contributing to customer turnover.
2. **Demographic Factors:**
  - **Senior Citizens:** Senior citizens represent approximately 16.2% of the customer base, yet have a disproportionately higher churn rate of around 42%, compared to 22% for non-senior customers. This suggests that senior customers face specific challenges or needs that may require targeted retention strategies.
3. **Tenure Analysis:**
  - **Short Tenure Customers:** The likelihood of churn is significantly higher among customers with a tenure of 1-2 months, with over 60% of these customers churning. In contrast, customers with a tenure of over 30 months have a churn rate below 20%. This trend suggests that the initial months are critical for engagement, and enhanced onboarding or early incentives could improve retention for new users.
4. **Contract Type:**
  - **Month-to-Month Contracts:** Customers with month-to-month contracts have a churn rate of approximately 45%, much higher than the churn rates for customers with one-year contracts (11%) or two-year contracts (3%). This stark difference highlights contract type as a major factor influencing churn, indicating that encouraging long-term contracts could reduce customer attrition.
5. **Payment Method:**
  - **Electronic Check:** Approximately 34% of customers use electronic check as their payment method. However, this group shows a churn rate of nearly 42%, which is substantially higher than the churn rates for other payment methods, such as bank transfers (10%) and credit card payments (12%). This indicates that customers using electronic checks may experience challenges or discomfort with this payment method, suggesting an opportunity to promote more stable, automated payment options to reduce churn.
6. **Additional Service Factors:**
  - **Internet Service Type:** Customers using fiber optic internet service exhibit a churn rate of 42%, compared to 18% for those using DSL. This indicates that

service quality issues or cost differences with fiber optic service may be impacting customer satisfaction and retention.

- **Add-On Services:** Analysis shows that customers without add-on services like tech support, online security, or device protection are more likely to churn. For instance, customers lacking tech support have a churn rate of 30%, compared to 15% among those with tech support, suggesting that bundling services could increase customer stickiness.

## Recommendations

- **Enhance Retention Strategies for Senior Citizens:** Considering their higher churn rate, tailored offers or support could help retain senior customers, such as discounts on long-term contracts or dedicated customer service.
- **Improve Early Customer Engagement:** Initiating customer engagement programs or incentives within the first three months of service could reduce the 60% churn rate observed among new customers. Personalized welcome programs, loyalty points, or early upgrades might increase retention.
- **Promote Long-Term Contracts:** Since month-to-month customers exhibit a 45% churn rate, encouraging one- or two-year contracts through discounts or bundled offers could significantly reduce churn.
- **Offer Payment Method Incentives:** Given the 42% churn rate among electronic check users, educating customers on alternative payment options like credit cards or automatic bank transfers and offering incentives for switching payment methods could help.
- **Bundle Add-On Services:** Given that customers without additional services like tech support have higher churn rates, offering bundled packages with add-ons (e.g., tech support or device protection) at a discount could add value and improve customer satisfaction.

This analysis delivers actionable insights for identifying high-risk customer groups and suggests strategies for reducing churn rates, which could improve customer retention, satisfaction, and long-term revenue growth.