Summary and Recommendations

The exploratory data analysis (EDA) on customer churn reveals key insights into factors influencing customer retention. The dataset was cleaned by handling missing values, converting data types, and standardizing categorical variables.

1. **Churn Rate**: Approximately **26.54% of customers have churned**. This is a significant proportion that requires further analysis.
2. **Demographics and Churn**:
   - **Gender does not influence churn**—both male and female customers have similar churn rates.
   - **Senior Citizens churn at a higher rate (41.7%) compared to non-senior citizens (23.6%)**. This suggests that older customers may have different needs or experience more dissatisfaction.
3. **Tenure and Churn**:
   - Customers who have been with the company for a longer period tend to stay.
   - **Customers who used the service for only 1-2 months are more likely to leave**, indicating possible onboarding or early experience issues.
4. **Contract Type and Churn**:
   - **Month-to-month contracts have the highest churn rate**, while customers with **one-year or two-year contracts are more likely to stay**.
   - This suggests that contractual commitments help in customer retention.
5. **Services and Churn**:
   - Customers **who have multiple services tend to stay**, while those with fewer services are more likely to leave.
   - Customers **without tech support or online security services show higher churn rates**, indicating that these add-ons might improve customer retention.
6. **Charges and Churn**:
   - Customers with **higher monthly charges are more likely to churn**.
   - However, total charges over time are lower for churned customers, reinforcing that long-term customers stay loyal.

Recommendations

1. **Improve Early Customer Experience**: Since customers who churn typically leave within the first few months, the company should focus on:
   - Enhancing onboarding processes.

- ○ Providing welcome offers or discounts.
- ○ Increasing engagement through customer support or personalized recommendations.

2. **Encourage Long-Term Contracts**:
   - ○ Offer incentives for customers to switch from month-to-month to annual plans.
   - ○ Provide discounts or added benefits for long-term commitments.

3. **Targeted Retention Strategies for Senior Citizens**:
   - ○ Since senior citizens have a higher churn rate, the company should consider:
     - ■ Personalized assistance.
     - ■ Simplified billing or service options.
     - ■ Customer support dedicated to older demographics.

4. **Enhance Service Offerings**:
   - ○ Promote bundled services and highlight the benefits of security and tech support add-ons.
   - ○ Conduct targeted marketing campaigns to educate customers on how these services improve their experience.

5. **Pricing Strategy Adjustments**:
   - ○ Since high monthly charges correlate with churn, the company could consider:
     - ■ Loyalty discounts for long-term customers.
     - ■ Flexible pricing options.
     - ■ Bundled service discounts to reduce overall costs.

6. **Monitor and Intervene Early**:
   - ○ Identify at-risk customers based on early tenure churn trends and intervene proactively with offers or service enhancements.

By implementing these strategies, the company can reduce churn, improve customer retention, and enhance overall satisfaction.