Summary & Recommendations

The customer dataset (7,043 records, 21 columns) was analyzed to understand drivers of churn. Using count plots, histograms, subplots, and pie charts, the following key findings emerged.

Key Insights from Visualizations

1. Overall Churn Rate

   - A pie chart of churn shows that 26.54% of customers have churned, while 73.46% have stayed.

   - This highlights that nearly 1 in 4 customers leaves the company.

2. Churn by Contract Type

   - Countplot reveals that customers with month-to-month contracts have the highest churn rate.

   - Customers with 1-year or 2-year contracts are much more loyal, with churn being significantly lower.

3. Churn by Tenure

   - A histogram of tenure shows:

   - Customers with tenure 0–2 months are most likely to churn.

   - Customers who stay beyond 1 year show higher retention rates.

4. Churn by Additional Services

   - Subplots of online services (OnlineSecurity, TechSupport, OnlineBackup, DeviceProtection):

     - Churn is much higher among customers with "No" services.
     - Example: Customers without Tech Support and Online Security churn almost 2times more compared to those who have them.

5. Churn by Internet Service Type

   - Customers using Fiber Optic internet churn at a higher rate than DSL customers.
   - Suggests dissatisfaction with Fiber Optic service quality or cost.

6. Churn by Payment Method

   - Customers paying via Electronic Check have the highest churn rate.

   - Customers using Credit Card or Bank Transfer (automatic payments) are more loyal.

7. Demographic Factors

   - Senior Citizens show a higher churn rate compared to non-senior customers.

   - Gender shows no significant impact on churn (both male and female churn rates are similar).

Recommendations to Reduce Churn

Based on these insights, the following actions are recommended:

1. **Reduce Early Churn**

   - Provide welcome offers, personalized onboarding, and dedicated support for first-time users.

   - Monitor new customers closely with proactive outreach in the first 2 months.

2. **Promote Long-Term Contracts**

   ○ Offer discounts or loyalty benefits for yearly and two-year contracts.

   ○ Educate customers on long-term cost savings compared to month-to-month plans.

3. **Bundle Add-on Services**

   ○ Customers without Online Security, Tech Support, or Backup churn more.

   ○ Introduce bundled packages at discounted rates, and provide free trials for value-added services.

4. **Improve Fiber Optic Experience**

   ○ Investigate complaints around pricing, downtime, or performance.

   ○ Offer premium customer care and incentives to fiber customers to reduce dissatisfaction.

5. **Payment Method Optimization**

   ○ Migrate customers from Electronic Check to Auto-Pay methods (Credit Card/Bank Transfer).

   ○ Give small rewards/discounts for switching to secure auto-pay.

6. **Target Senior Citizens**

   ○ Provide senior-friendly packages with simple billing, affordable plans, and quick support access.

Conclusion

Visual analysis shows churn is not random: it's strongly linked to **contract type**, **service adoption, payment method, and customer tenure**. By focusing on the 26.54% churned customers, the company can implement targeted strategies to improve retention and revenue stability.