Customer Churn Analysis Summary

I analyzed a dataset of 7,043 customers, out of which 1,869 have churned, representing approximately 26.5% of the total customer base. The goal was to understand the factors that influence customer churn.

# 1. Is Churn Gender-Biased?

Gender does not significantly influence churn. Both males and females churned at nearly the same rate, indicating gender neutrality in customer decisions to leave.

# 2. Impact of Age: Senior Citizens

There are 1,142 senior citizens in the dataset. Approximately 41.7% of them have churned, which is significantly higher than the churn rate of non-senior customers.

Insight:  
- Limited digital literacy  
- Lack of perceived value  
- Poor customer support for their specific needs

# 3. Tenure Effect on Churn

Tenure refers to the number of months a customer has stayed with the company. Customers with shorter tenures have much higher churn rates. As tenure increases, churn probability significantly drops.

Insight:  
Customers are most likely to churn in the initial months of service. Retention efforts should focus on new customers in their first year.

# 4. Service-Based Churn Patterns

We analyzed whether customers had the following services enabled:  
- PhoneService  
- InternetService (DSL vs Fiber)  
- OnlineSecurity  
- TechSupport  
- StreamingTV/StreamingMovies  
- OnlineBackup

Customers less likely to churn:  
- Had PhoneService  
- Used DSL Internet  
- Enabled Online Security and Tech Support  
  
Customers more likely to churn:  
- Did not have Online Security or Tech Support  
- Used Fiber optic Internet  
- Did not subscribe to value-added services like Streaming or Backup

# 5. Payment Method Influence

The method of payment plays a key role in customer retention.  
  
- Customers using Electronic check are more likely to churn.  
- Those using bank transfers, credit cards, or mailed checks churn less frequently.

Insight:  
Electronic check users may face payment friction or may be more price-sensitive. Improving digital payment UX or offering better onboarding may help.

# ✅ Summary of Key Insights

1. Gender is not a significant factor in churn behavior.  
2. Senior citizens churn more — possibly due to usability, understanding, or lack of engagement.  
3. Short-tenure customers are at high churn risk. Focus retention strategies on new users.  
4. Service subscriptions matter:  
 - Security, support, and bundled services improve customer stickiness.  
 - Lack of value-added services correlates with churn.  
5. Payment method matters:  
 - Customers using electronic checks churn more, suggesting a UX or trust issue.