Summary and Recommendation

Objective :   This report explores customer behavior and churn patterns using visual analytics. The primary objective is to identify which customer segments are most prone to churn and why, enabling targeted business strategies to improve customer retention.

◆ **1. Demographic Insights**

- **Gender:**

    ○ Male and female customers are almost equally distributed.

    ○ Churn rate is slightly higher among **female customers (~27%)** than males (~26%).

- **Senior Citizens:**

    ○ Only **16% of customers are senior citizens**, but they exhibit a significantly higher churn rate (**42%**) compared to non-seniors (**24%**).

    ○ Indicates that **age plays a crucial role** in customer satisfaction and loyalty.

- **Dependents and Partners:**

    ○ **Customers without dependents** have a **churn rate of ~32%**, while those with dependents churn at just **15%**.

    ○ Similarly, customers **without partners** churn at **31%**, while those with partners churn at only **20%**.

    ○ These stats highlight that **family-based customers are more stable** and less likely to switch providers.

◆ 2. Service Subscription Behavior

- **Phone Service:**

  - A majority (~90%) have phone service. However, churn is **higher for customers with multiple lines (~25%)** compared to those with a single line.

- **Internet Service:**

  - **Fiber optic users churn at ~42%**, which is significantly higher than **DSL users (~19%)** or **customers without internet (~7%)**.

  - This indicates that **fiber users might face performance or pricing dissatisfaction**.

- **Online Security, Backup, Tech Support, and Device Protection:**

  - Across these categories, **non-subscribers have churn rates 15–20% higher** than those who use these services.

  - These value-added services **improve customer stickiness**.

◆ 3. Contract Type, Tenure & Churn

- **Contract Type:**

  - **Month-to-month contracts** have a churn rate of **~43%**, while **one-year contracts churn at ~11%**, and **two-year contracts at only ~3%**.

  - Longer contracts clearly **boost customer retention**.

- **Tenure:**

  - Most churners have a tenure of **0–12 months**, showing a steep drop in churn as tenure increases.

  - After 2 years, churn becomes very minimal, emphasizing the **value of early engagement and satisfaction**.

◆ 4. Billing and Payment Methods

- **Paperless Billing:**

  - Customers who use paperless billing churn at **33%**, while non-paperless users churn at only **18%**.

  - This may be linked to **ease of cancellation or lower engagement** with billing.

- **Payment Method:**

  - **Electronic check users churn the most (45%)**, suggesting **payment method reflects digital comfort or satisfaction**.

  - In contrast, churn for those using **bank transfers, credit cards, or mailed checks is below 20%**.

◆ 5. Monthly Charges & Total Charges

- **Monthly Charges:**

  - High monthly charges correlate with **higher churn**—most churners are in the **$70–$100 range**.

  - Customers with lower monthly charges show **stronger loyalty**, perhaps due to perceived value.

- **Total Charges:**

  - Customers with **low total charges (<$1000)** churn at **~45%**, while customers with **higher cumulative spending** show much lower churn.

  - This confirms that **long-term customers are more loyal**.

◆ **6. Multivariate Trends and Patterns**

- Churn is highly influenced by **intersections of features**, such as:

    ○ **Month-to-month + Fiber Optic + Electronic Check** → churn spikes to over **55%**.

    ○ **Two-Year Contract + Tech Support + Partner/Dependent** → churn drops below **5%**.

These combined factors highlight the importance of **offering bundled services and long-term contracts to reduce churn risk**.

✅ Recommendations Based on Insights:

1. **Promote Long-Term Contracts**: Offer discounts and incentives for 1–2 year commitments.

2. **Target High-Risk Segments**: Focus retention efforts on fiber users, electronic check payers, and those with no partners/dependents.

3. **Enhance Support Services**: Encourage subscriptions to Online Security, Backup, and Tech Support.

4. **Early Intervention**: Engage customers within their first 6 months to prevent early churn.

5. **Revamp Billing Options**: Make billing more transparent and value-driven to reduce churn from electronic check users.