

Summary and Recommendations

Key Findings from Visual Data Analysis

1. Churn Distribution

- **Churn Rate:** Approximately **26%** of customers in the dataset have churned.
 - This provides a strong starting point to investigate what distinguishes churned customers from retained ones.
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Tenure & Churn

- Customers with a **tenure of 1–2 months** show the **highest churn rate (~60–70%)**.
 - As tenure increases, churn probability decreases significantly. For instance:
 - Customers with **more than 2 years of tenure** have a churn rate of **less than 10%**.
 - This indicates that **early engagement and satisfaction are critical** to retention.
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Contract Type and Retention

- Customers with **Month-to-month contracts** have a churn rate of around **43%**, the highest among all contract types.
 - In contrast:
 - **One-year contracts** show a churn rate of **11%**.
 - **Two-year contracts** show an even lower churn rate at **3–5%**.
 - **Conclusion:** Longer contracts are strongly associated with customer loyalty.
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Internet Service and Churn

- Churn rates by internet type:
 - **Fiber Optic:** ~42%
 - **DSL:** ~19%
 - **No Internet Service:** ~7%
 - Customers using **Fiber Optic** churn significantly more, possibly due to **service issues or pricing**.
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Optional Services and Churn Behavior

Lack of added services strongly correlates with churn:

- **Online Security:**
 - Customers **without** it churn at ~32%.
 - Those **with** it churn at ~15%.
- **Tech Support:**
 - Without support: ~31% churn.
 - With support: ~14%.
- **Device Protection, Backup Services** follow similar trends.

✓ **Insight:** Optional services like **OnlineSecurity**, **TechSupport**, and **DeviceProtection** improve retention by **up to 2x**.

Streaming Services Influence

- Customers using **StreamingTV** or **StreamingMovies** have churn rates above **30%**, while non-users are below **20%**.
 - These services might contribute to churn if they don't meet expectations or are perceived as add-on costs.
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Phone and Multiple Lines

- Most customers have **Phone Service**, but churn is slightly higher in users with **Multiple Lines**:
 - **Multiple Lines users churn at ~28%.**
 - **Single line users churn at ~22%.**
 - May reflect **more complex service needs or dissatisfaction** among families.
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Payment Method Matters

- **Electronic Check** users have the **highest churn rate at ~35%.**
 - Other methods:
 - **Bank Transfer & Credit Card: ~12–15%**
 - **Mailed Check: ~16%**
 - Indicates that users on auto-pay methods are more loyal.
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Demographics and Churn

- **Senior Citizens** churn at a **higher rate (~35%)** than non-seniors (~24%).
 - Other factors like **gender** show **no significant impact.**
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Strategic Recommendations

1. **Promote Longer-Term Contracts:** Offer incentives to move month-to-month users to annual plans.
2. **Enhance Onboarding Experience:** Focus on customers within their **first 2 months.**
3. **Bundle Value Services:** Include Online Security and Tech Support in standard packages.

4. **Target High-Risk Internet Customers:** Particularly those on **Fiber Optic** with customized engagement.
5. **Simplify Billing:** Encourage auto-pay methods to reduce churn risk.
6. **Segment Senior Citizens:** Tailored communication and support for older users can improve retention.