summary

This project analyzes customer churn behavior to identify the most important drivers influencing customer retention and attrition. Through exploratory data analysis and well-structured visualizations (countplots and distributions), clear patterns emerge across customer demographics, tenure, contract type, service usage, and payment behavior.

Overall Churn Overview

- The **overall churn rate is approximately 26–27%**, meaning **about 1 in every 4 customers leaves the service**.

- This level of churn represents a **significant revenue risk** and highlights the need for targeted retention strategies.

Key Insights (with Percentages)

1. Senior Citizen Impact

- **Senior citizens show a noticeably higher churn rate (~40%+)** compared to non-senior customers (~23–25%).

- Although senior citizens form a smaller portion of the customer base, they contribute disproportionately to churn.

Implication:
 Customized plans, better customer support, and simplified services could reduce churn in this segment.

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2. Tenure vs Churn

- Customers with **1–2 months of tenure show the highest churn rate (≈45–50%)**.

- Churn steadily declines as tenure increases.

- Customers with **tenure above 24 months have churn rates below 10%**.

Implication:
 The **first few months are critical**. Strong onboarding, early engagement, and welcome offers can significantly reduce early churn.

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3. Contract Type

- **Month-to-month contracts account for ~55–60% of total churned customers**.

- Customers with:

    - **One-year contracts** show churn of roughly **10–12%**

    - **Two-year contracts** show the **lowest churn (<5%)**

Implication:
Encouraging long-term contracts through discounts or bundled services can drastically improve retention.

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4. Value-Added Services Usage

Customers **without additional services** show consistently higher churn:

- **Online Security – ~40% churn** when not subscribed

- **Tech Support – ~38–40% churn** when absent

- **Device Protection & Online Backup – ~35–38% churn**

Customers who use these services generally have **churn rates below 15%**.

Implication:
These services act as **strong retention levers**. Bundling or promoting them early can increase customer stickiness.

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5. Internet & Streaming Services

- Customers with **Fiber Optic internet** show **higher churn (~30%+)** compared to DSL users.

- Customers **without Streaming TV or Streaming Movies** churn more frequently than those who use these services.

Implication:
Service quality, pricing, or expectations around fiber connections should be reviewed.

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6. Payment Method

- Customers using **Electronic Check show the highest churn (~45%)**.

- Automatic payment methods (credit card or bank transfer) show **much lower churn (~15–18%)**.

Implication:
Encouraging **auto-pay options** can help reduce churn and improve payment reliability.

Business Recommendations

- Focus on **early-tenure retention programs** (first 90 days).

- Promote **long-term contracts** with incentives.

- Bundle **Online Security, Tech Support, and Backup services**.

- Improve engagement strategies for **senior citizens**.

- Migrate customers from **electronic checks to automated payment methods**.

Conclusion

The charts and visual analysis clearly demonstrate that churn is **not random**—it is strongly influenced by tenure, contract type, service adoption, and payment behavior. By acting on these insights, the organization can **significantly reduce churn, increase customer lifetime value, and stabilize revenue growth**.