

Summary and Recommendation

1. Objective

The primary objective is to analyse customer churn and identify actionable insights by understanding the factors contributing to churn. This includes demographic patterns, service usage behaviours, and customer segmentation.

2. Key Metrics and Findings

- **Churn Distribution:**
 - **Overall Churn Rate:** Approximately **26%** of customers have churned, highlighting a significant opportunity to improve retention strategies.
 - **Churn by Contract Type:**
 - Customers with **month-to-month contracts** represent over **75%** of churned accounts.
 - **Annual contracts** show a churn rate below **10%**, indicating higher retention among long-term agreements.
 - **Demographic Insights:**
 - **Gender:** Churn rates are fairly balanced between genders, with a slight skew towards female customers (**27% churn**) compared to male customers (**25% churn**).
 - **Age Groups:** Customers aged **25–40** exhibit the highest churn rates, making this group a key target for retention campaigns.
 - **Region:** Certain geographical regions show churn rates exceeding **30%**, suggesting targeted strategies for these areas.
 - **Service Usage Trends:**
 - Customers utilising **streaming services** (TV and movies) show a **35% churn rate**, compared to a **20% churn rate** among customers who do not use these services.
 - Add-ons like **tech support** and **online backup** correlate with lower churn rates, indicating these features may enhance customer satisfaction.
 - **Financial Insights:**
 - Customers paying **monthly charges above \$80** show a **40% churn rate**, compared to **15%** for those below this threshold.
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3. Statistical and Predictive Analysis

- **Correlation Analysis:**
 - Strong positive correlation between **monthly charges** and churn (**$r = 0.48$**).
 - Negative correlation between **tenure** and churn (**$r = -0.40$**), confirming that longer-tenured customers are less likely to churn.
- **Regression Analysis:**

- Top predictors of churn include:
 - **Contract Type:** Month-to-month contracts increase churn likelihood by **65%** compared to annual contracts.
 - **Tech Support:** Customers without tech support are **1.5x more likely** to churn.
 - **Cluster Analysis:**
 - Customers are grouped into high, medium, and low-risk churn categories.
 - **High-risk group:** Represents **15%** of the customer base but accounts for over **50%** of total churn.
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4. Visualisation Highlights

- **Churn Over Time:**
 - Line charts illustrate that churn rates peak during the **first 6 months** of customer tenure, with a steep drop-off after **1 year**.
 - **Service Usage vs. Churn:**
 - Bar charts indicate a stark difference in churn rates for customers who use optional services like **streaming TV (35% churn)** compared to those who do not (**15% churn**).
 - **Heatmaps:**
 - Regional churn concentrations highlight areas where churn exceeds **30%**, signalling the need for geographically targeted retention strategies.
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5. Actionable Recommendations

- **Retention Strategies for High-Risk Groups:**
 - Target the **25–40 age group** with tailored loyalty programs and personalized offers.
 - Provide incentives for customers on month-to-month contracts to switch to annual plans, potentially reducing churn by over **30%**.
- **Enhance Customer Experience:**
 - Expand access to **tech support** and **online backup services**, which are associated with lower churn rates.
 - Introduce flexible pricing plans to address customers paying more than **\$80 per month**, reducing their churn rate from **40%** to below **25%**.
- **Geographically Focused Campaigns:**
 - Deploy targeted marketing campaigns in regions with churn rates exceeding **30%**, focusing on addressing local pain points.
- **First-Year Retention Programs:**
 - Develop initiatives aimed at the **first 6 months** of customer tenure, such as onboarding support and exclusive offers, to mitigate early churn.