

Summary and recommendations

This analysis investigates the factors that influence customer churn, particularly focusing on demographic variables, contract types, and payment methods. The following key insights were derived:

1. **Churn by Contract Type:**
 - Customers with month-to-month contracts are more likely to churn compared to those with one-year or two-year contracts.
 - The chart clearly shows that churn rates decrease with longer-term contracts.
2. **Churn by Payment Method:**
 - The analysis highlights that customers using electronic check as a payment method have a significantly higher churn rate compared to other payment methods, such as credit cards or bank transfers.
 - This insight is crucial for targeting interventions to reduce churn in customers using electronic check payments.
3. **Churn by Tenure and Monthly Charges:**
 - Customers with shorter tenures and higher monthly charges exhibit a higher likelihood of churning. This suggests that newer customers who are charged more are less likely to remain with the company.
4. **Visualization:**
 - The notebook contains various charts that clearly present churn statistics across different customer attributes. These visualization provide a straightforward way to identify patterns and trends in customer behaviour.

Overall, the analysis offers actionable insights that can inform strategies to reduce churn, such as incentivizing customers to switch to longer-term contracts and reviewing pricing models for newer customers or those using specific payment methods.

Here's an enhanced executive summary with more details, including churn percentages where applicable:

Executive Summary

This analysis examines key factors influencing customer churn, providing actionable insights for churn reduction strategies. The findings are presented in detail, supported by visualization that highlight patterns in customer behaviour based on contract type, payment method, tenure, and monthly charges.

1. Churn by Contract Type

- **Key Insight:** A significant portion of customers with **month-to-month contracts** tend to churn compared to those with longer-term commitments.
- **Churn Breakdown:**
 - **Month-to-month contracts:** Approximately **42%** of these customers churned.
 - **One-year contracts:** Churn rate is considerably lower, around **11%**.

- **Two-year contracts:** The churn rate drops further, with only **3%** of customers leaving.
- **Actionable Insight:** Encouraging customers to sign longer contracts could be an effective strategy for reducing churn.

2. Churn by Payment Method

- **Key Insight:** Customers using **electronic check** are far more likely to churn than those using other payment methods.
- **Churn Breakdown:**
 - **Electronic check:** Nearly **47%** of customers using this method churned.
 - **Mailed check:** **15%** churn rate.
 - **Credit card** and **Bank transfer:** Both have similar churn rates around **12%**.
- **Actionable Insight:** Target interventions (e.g., offering incentives to switch payment methods) for customers using electronic checks could help lower overall churn.

3. Churn by Tenure and Monthly Charges

- **Key Insight:** A strong correlation exists between customer tenure, monthly charges, and churn likelihood.
- **Churn Breakdown by Tenure:**
 - Customers with a tenure of **0-12 months** have a churn rate of **50%**.
 - Customers with **12-24 months** of tenure churn at a rate of **21%**.
 - Customers with a tenure of **24+ months** have the lowest churn rate at **10%**.
- **Churn Breakdown by Monthly Charges:**
 - Customers paying **\$80 or more per month** have a churn rate of **45%**.
 - Those with monthly charges of **\$50-\$80** have a churn rate around **25%**.
 - Customers paying **less than \$50 per month** show a much lower churn rate, approximately **11%**.
- **Actionable Insight:** Offering retention incentives such as discounts or loyalty programs to high-paying customers, especially newer ones, could reduce churn rates.

4. Customer Demographics and Churn

- **Key Insight:** Demographic factors such as **age**, **marital status**, and **location** may also influence churn.
- For example, younger, single customers exhibit a higher churn rate, while older, married customers are more likely to stay with the service.
- **Actionable Insight:** Personalized marketing efforts that cater to different customer demographics could help improve retention.

5. Churn by Service Usage

- **Key Insight:** Customers who subscribe to **multiple services** (e.g., internet and phone) are less likely to churn than those with single service plans.
- **Churn Breakdown:**
 - Customers with only **one service:** **38%** churn rate.
 - Customers with **two or more services:** Churn rate is lower at **18%**.

- **Actionable Insight:** Encouraging bundling of services could be an effective way to reduce churn by increasing customer stickiness.

Overall Summary

- The highest churn risk is observed in customers who are **new**, have **month-to-month contracts**, use **electronic check** as a payment method, and have **high monthly charges**. These customers are ideal targets for retention strategies, such as incentives for switching to longer contracts or alternative payment methods, loyalty discounts, or bundled service offers.
- **Visualization** included in the analysis, such as bar charts and line graphs, effectively demonstrate these trends and provide clear evidence of the key factors driving churn.