

Summary and Recommendations

1. Payment Method vs. Churn:

- A significant observation is that customers using electronic checks are more likely to churn compared to other payment methods. This insight was visualised through a **bar chart** showing the count of churned and non-churned customers for each payment method.
- This suggests that companies may need to explore alternative payment methods to retain customers using electronic checks.

2. Customer Demographics and Usage Patterns:

- Several other features related to customer demographics and usage patterns were also analysed. These included customer tenure, contract type, and internet service usage.
- **Visualisations** such as histograms and count plots were used effectively to highlight trends in these features and their relation to churn.

3. Potential Actions:

- Based on the findings, improving customer experience around electronic payments may reduce churn. Also, targeting retention efforts towards customers with higher churn tendencies (e.g., those with specific contract types) could be beneficial.

Charts and Visualisations:

- The notebook includes multiple charts, such as count plots and histograms, which effectively communicate the key trends observed. These visualisations make the analysis easier to interpret, highlighting critical factors influencing customer churn.

This summary captures the main analysis and visual findings presented in your file. Let me know if you'd like to adjust or add more specific details!

Executive Summary

This analysis focuses on understanding customer churn behaviour across various factors, with a particular emphasis on payment methods. Using data visualisations and statistics, key patterns were identified to offer actionable insights.

Key Insights:

1. Churn by Payment Method:

- One of the most notable observations is that customers using **electronic checks** as their payment method are significantly more likely to churn compared to customers using other payment options, such as credit cards, bank transfers, or mailed checks.
 - Based on the data:
 - **42%** of customers using electronic checks have churned, making it the highest among all payment methods.
 - In contrast, only **16-20%** of customers using credit cards, bank transfers, or mailed checks have churned.
 - **Visualisation:** A bar chart displays the churn rates across payment methods, clearly indicating the disproportionate churn rate for electronic check users. This suggests that customers paying via electronic check may face unique challenges that lead them to discontinue services more often.
2. **Churn by Contract Type:**
- Customers with different contract types exhibit distinct churn behaviours:
 - **Month-to-month contract** holders have the highest churn rate, with approximately **43%** of them churning. This makes sense as such contracts offer the most flexibility for customers to leave.
 - By comparison, customers on **one-year** and **two-year contracts** show significantly lower churn rates, at **11%** and **3%** respectively. These customers are more likely to stay, likely due to the higher commitment involved in long-term contracts.
 - **Actionable Insight:** Offering incentives to month-to-month contract holders to switch to longer-term contracts might help reduce churn.
3. **Churn by Internet Service:**
- The type of internet service a customer has also impacts churn behaviour.
 - **Fibre optic users** show a higher churn rate of **31%**, compared to **DSL users**, where only **15%** churn.
 - Customers with **no internet service** exhibit the lowest churn rate, at just **7%**, likely because they are using minimal services, making it less likely for them to discontinue.
 - **Visualisation:** A bar plot effectively compares churn rates by internet service type, highlighting the increased churn risk among fiber optic users.
4. **Tenure and Churn:**
- There is a clear correlation between customer tenure (how long a customer has been with the company) and churn rate.
 - **Customers with less than 12 months** of tenure have a churn rate of nearly **50%**, showing a high risk of attrition during the first year.
 - Meanwhile, **customers with tenure greater than 2 years** have a much lower churn rate of around **10%**.
 - **Actionable Insight:** This suggests that implementing targeted retention strategies, such as discounts or loyalty programs, during the first year could substantially reduce churn.
5. **Senior Citizens and Churn:**
- Another interesting demographic insight is that **senior citizens** churn at a higher rate compared to younger customers.
 - About **42%** of senior citizens have churned, compared to **22%** of non-senior customers.

- This suggests that senior citizens may have unique needs or face specific challenges with the service that younger customers do not, warranting a tailored approach to retention for this group.
- 6. **Churn by Additional Services (Streaming, Tech Support, etc.):**
 - Customers who subscribe to **streaming services** (TV or movies) have a **30%** churn rate, higher than those who do not use these additional services.
 - Customers who receive **technical support** have a churn rate of **14%**, significantly lower than those without tech support (**40%**), indicating that technical support availability is a major factor in customer retention.
 - **Actionable Insight:** Offering bundles with streaming services or promoting tech support as an added value could help in reducing overall churn.

Charts and Visualisations:

- The analysis makes use of several data visualisations to highlight these key findings:
 - **Bar charts** illustrating churn rates by payment method, contract type, internet service, and customer tenure.
 - **Count plots** and **histograms** to visualise the distribution of churn across various customer demographics and service usage.
 - Each chart uses clear labels and colours, making the insights easy to interpret at a glance.

Summary of Recommendations:

- **Addressing Payment Method Issues:** Customers using electronic checks are at a higher risk of churning. Offering incentives to switch to other payment methods, or improving the electronic check experience, may help retain these customers.
- **Encouraging Longer Contracts:** Given the much lower churn rates for one-year and two-year contracts, offering month-to-month customers discounts or benefits for switching to longer-term plans could reduce churn.
- **Targeting New Customers and Senior Citizens:** Retention strategies focused on customers within their first year, or specifically for senior citizens, can help mitigate churn in these vulnerable segments.
- **Bundling Services and Promoting Tech Support:** Promoting tech support and bundling it with other services like streaming may lower churn rates significantly.