

Project Title: Analysis of Customer Churn in a Telecommunications Company

Project Goal: To identify key factors that contribute to customer churn and develop strategies to improve customer retention.

Key Performance Indicators (KPIs):

a. Churn Rate:

- Percentage of customers who stop using a company's product or service within a specific timeframe.
- Formula: $(\text{Number of customers lost} / \text{Total number of customers at the start of the period}) * 100$
- Target: Aim to minimize churn rate over time.

b. Customer Retention Rate (CRR):

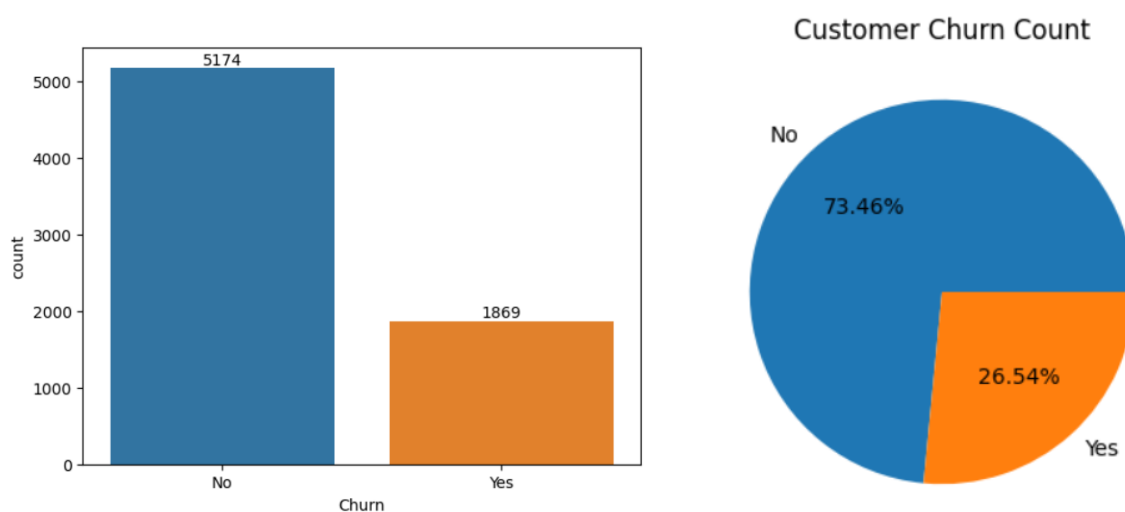
- The percentage of customers who remain with a company over a specific period.
- Formula: $(\text{Number of customers retained} / \text{Total number of customers at the start of the period}) * 100$
- Target: Maximize CRR to reduce churn and improve profitability.

Objective

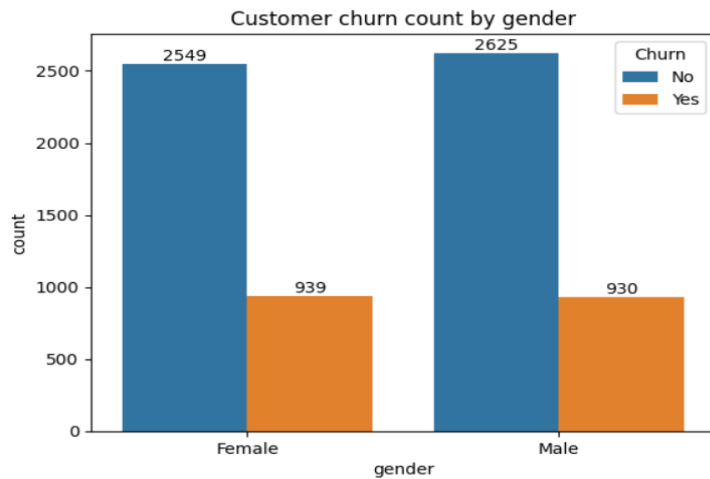
The analysis focuses on identifying churn patterns and proposing retention strategies

Exploratory Data Analysis (EDA):

Results and Findings:



Customer Retention Rate= 73.46% and Customer Churn Rate= 26.54%

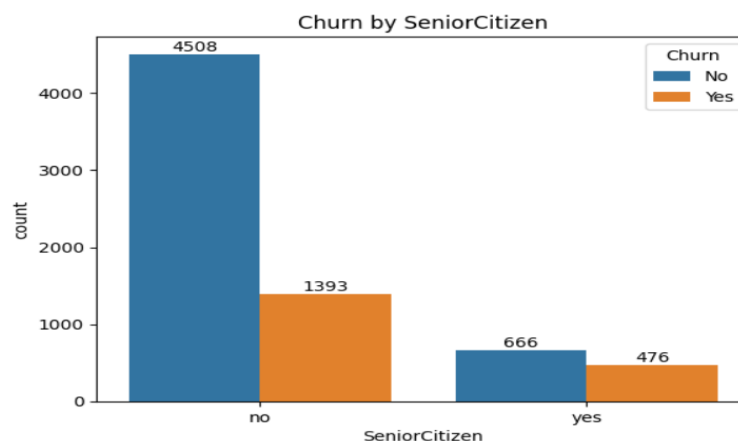


Reveal:

- Female Customers (26.92%) have higher churn rate as compared to Male customers (26.16%)

Actionable strategy:

- Keep focus on both the genders and offers based on their needs and preferences

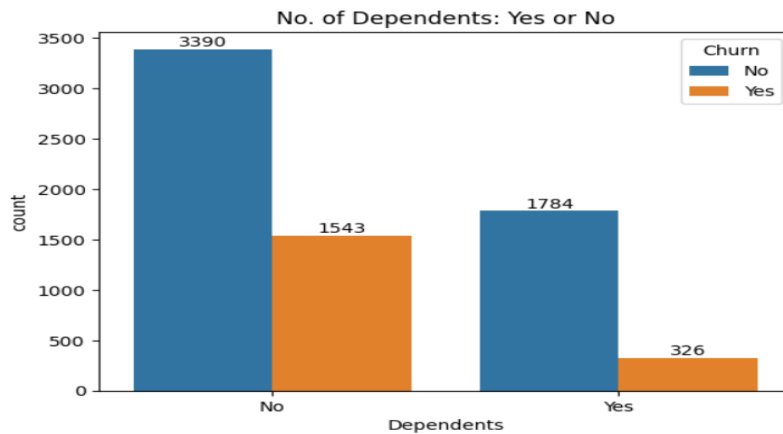


Reveal:

- Senior citizens have a higher churn rate (41.68 %) compared to non-senior citizens

Actionable Strategies:

- Targeted Outreach:** Conduct targeted outreach programs to understand the specific needs and concerns of senior citizens.
- Service Accessibility:** Improve the accessibility of services for senior citizens, such as offering in-person support or simplified online interfaces.
- Price Sensitivity:** Offer flexible pricing plans and discounts to cater to the financial needs of senior citizens.
- Customer Support:** Provide dedicated customer support channels for senior citizens, such as phone support or in-person assistance.

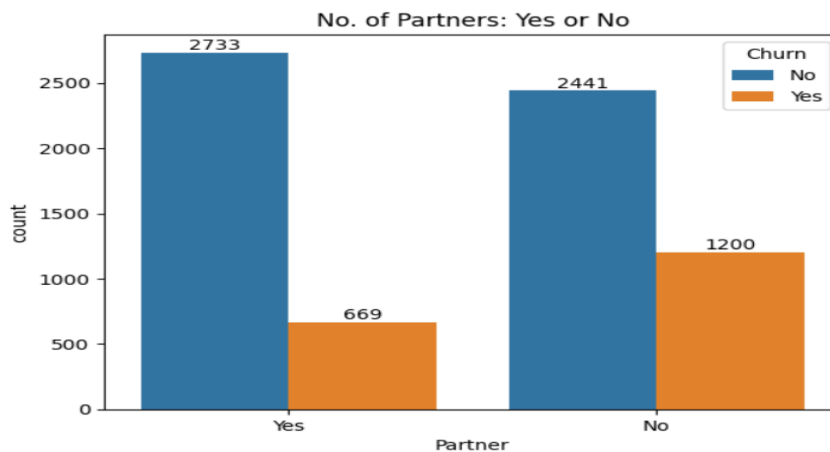


Reveal:

- Customers with dependents have a lower churn rate (15.45%) compared to customers without dependents.

Actionable Strategies:

- Targeted Retention:** Focus retention efforts on customers without dependents, as they appear to be more at risk of churn.
- Family-Oriented Bundles:** Offer family-oriented service bundles and promotions to incentivize customers with dependents to stay.
- Customer Satisfaction:** Continuously monitor and improve customer satisfaction for customers with dependents to ensure their needs are met.

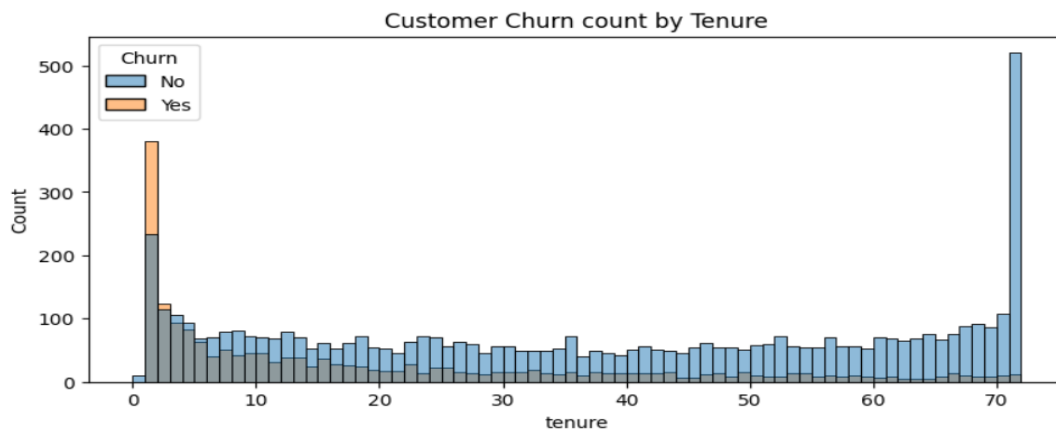


Reveal:

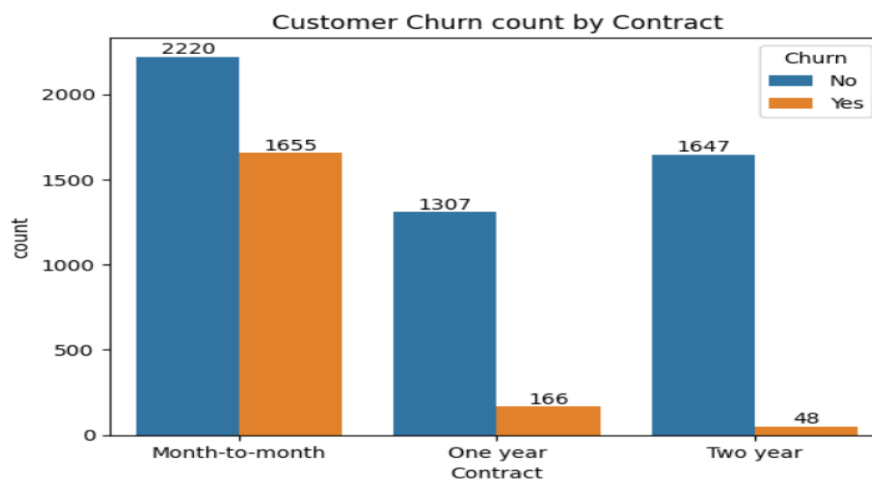
- Customers without partners have a higher churn rate (32.95%) compared to customers with partners (19.66%).

Actionable Strategies:

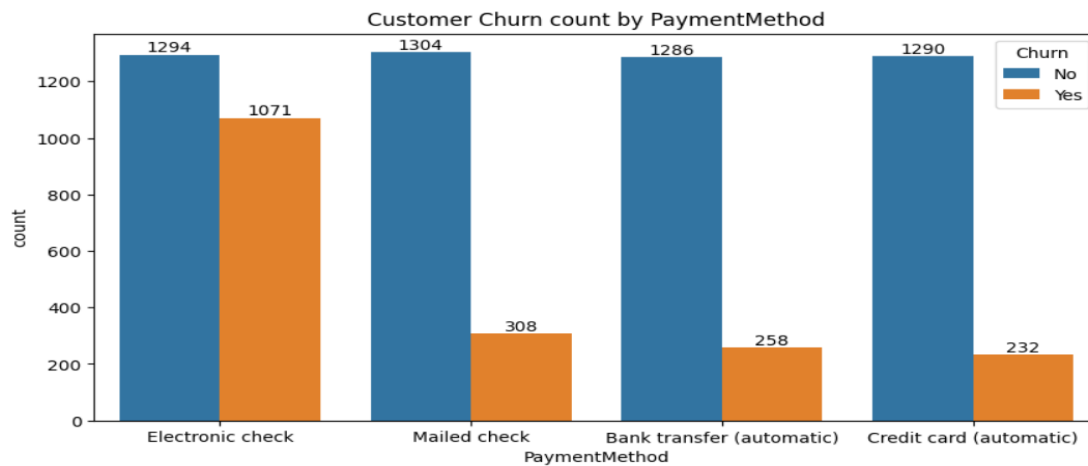
- Targeted Retention:** Focus retention efforts on customers without partners, as they appear to be more at risk of churn.
- Partner-focused Promotions:** Offer promotions and incentives to customers with partners, such as discounts or bundled services.



- **Reveals:**
 - High churn in early tenure suggests that customers leave soon after joining.
 - A decreasing churn trend with longer tenure indicates loyalty increases over time.
- **Actionable Strategy:**
 - Focus on onboarding and addressing initial customer pain points to retain early-tenure customers.
 - To make targeted efforts to **improve customer onboarding, address potential pain points, and build strong customer relationships** can be crucial to reducing early churn.
 - To inform strategies for **rewarding and incentivizing long-term customers** to further strengthen their loyalty.

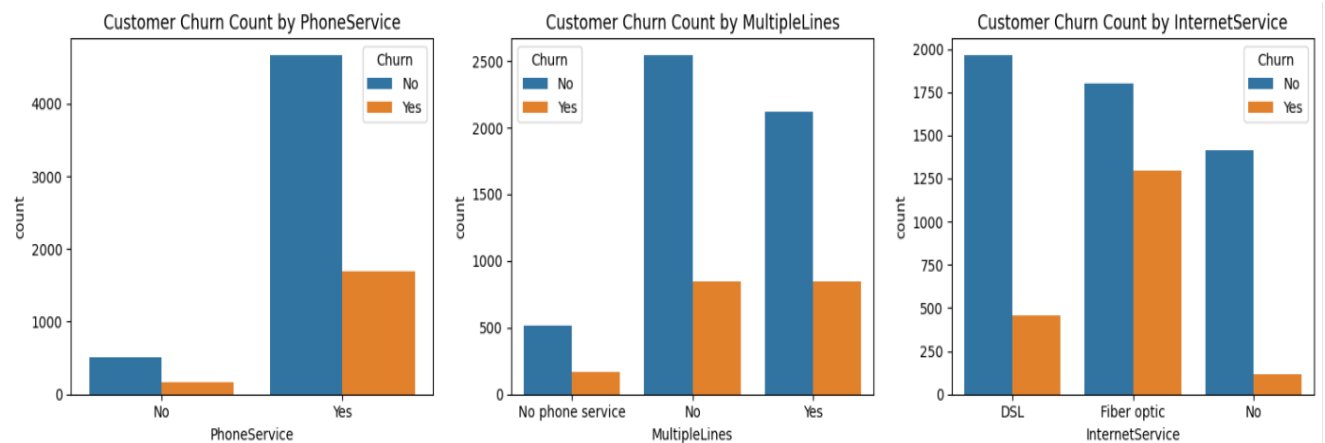


- **Reveals:**
 - Month-to-month contracts likely show higher churn due to flexibility.
- **Actionable Strategy:**
 - Encourage customers to commit to long-term contracts through discounts or loyalty rewards.



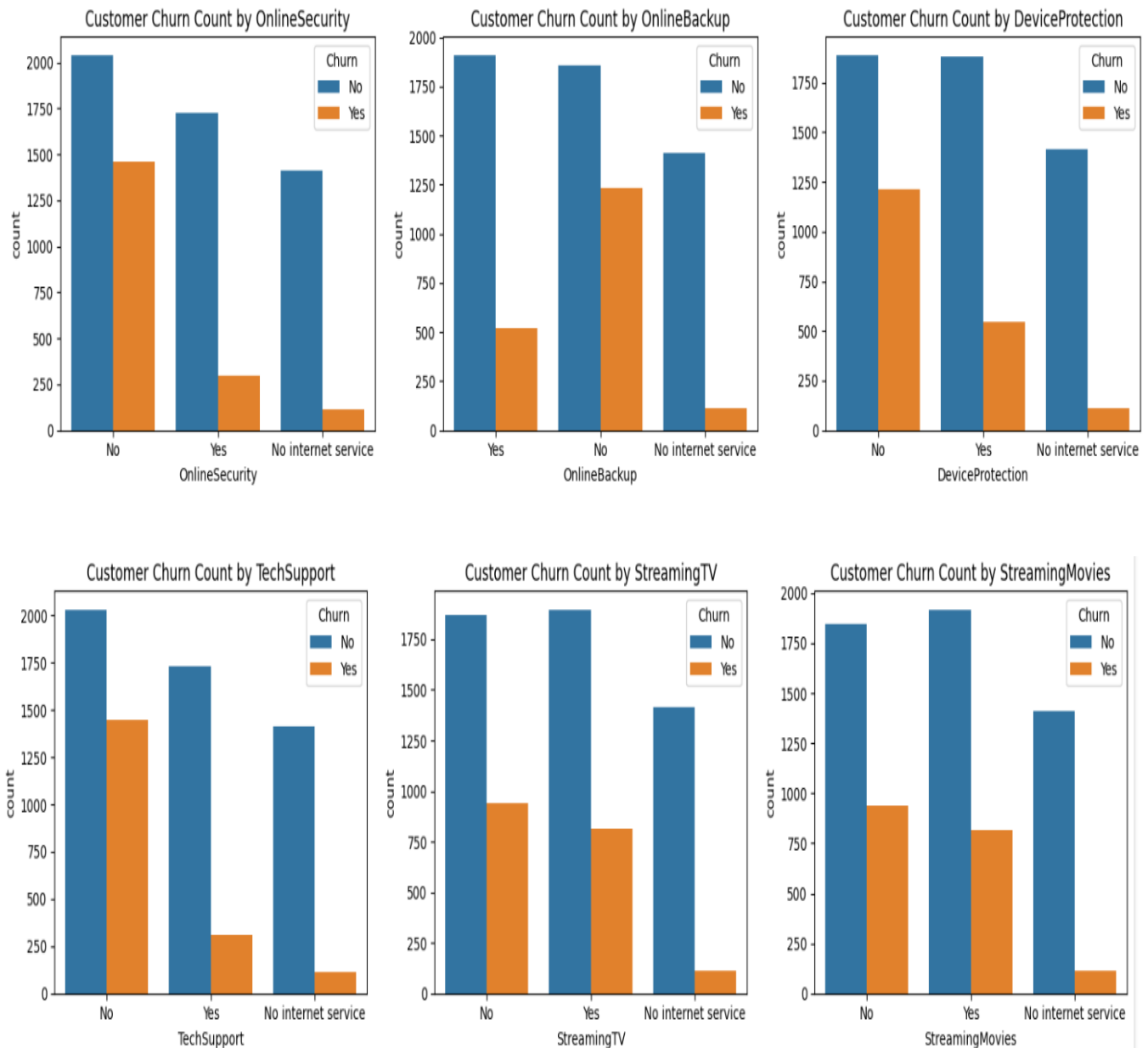
2. Payment Method vs. Churn

- **Plot:** Count plot or pie chart showing churn rates for each payment method (e.g., electronic check, credit card, etc.).
- **Reveals:**
 - Certain payment methods (e.g., electronic checks) may be strongly correlated with higher churn.
- **Actionable Strategy:**
 - Investigate why specific payment methods lead to higher churn and offer incentives for switching to more stable payment methods.



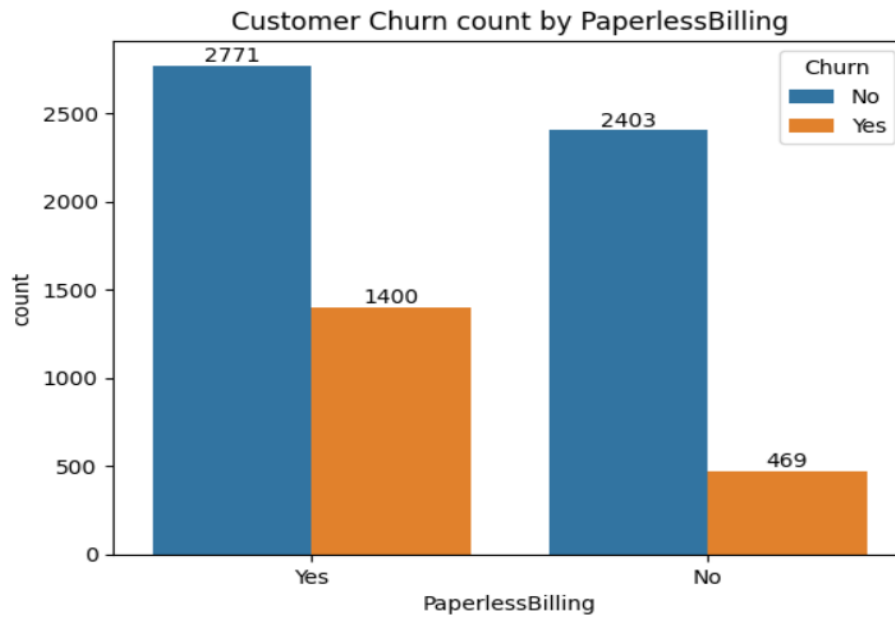
4. Internet Service Type vs. Churn

- **Plot:** Bar plot showing churn rates for different internet services (e.g., DSL, Fiber optic, None).
- **Reveals:**
 - Higher churn with fiber optic could indicate service or price dissatisfaction.
- **Actionable Strategy:**
 - Improve service quality or offer competitive pricing for high-churn services.



5. Add-on Services vs. Churn

- **Plot:** Stacked bar plot showing churn rates based on add-on services (e.g., streaming TV, device protection, online security).
- **Reveals:**
 - Customers with fewer add-ons might churn more due to lack of engagement.
- **Actionable Strategy:**
 - Bundle services or create promotional offers to encourage customers to use multiple services.



"Customer Churn count by Paperless Billing".

Reveal:

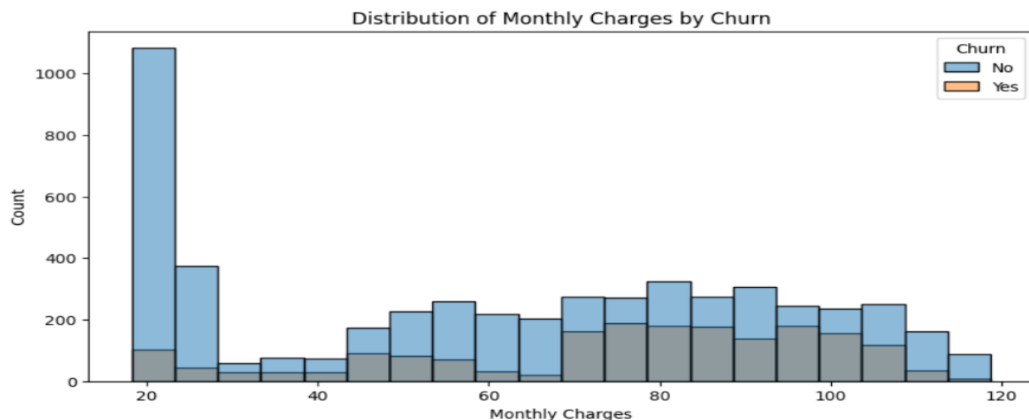
- The bar chart shows that a majority of customers prefer paperless billing.
- Customers with paperless billing have a higher churn rate (33.56%) compared to those with paper billing.

Possible Reasons for Correlation (Speculation):

- **Digital Savvy:** Customers who prefer paperless billing might be more digitally inclined and thus more likely to explore other service providers online.
- **Convenience:** Paperless billing might not be as convenient for some customers, leading to dissatisfaction and churn.
- **Data Privacy Concerns:** Some customers might be concerned about the security of their personal information with paperless billing.

Actionable Strategy

- **Service Accessibility:** Improve the accessibility of services for customers with paperless billing, such as offering online support and troubleshooting tools.
- **Data Security:** Emphasize the security measures in place to protect customer data with paperless billing.
- **Customer Satisfaction:** Continuously monitor and improve customer satisfaction for customers with paperless billing.

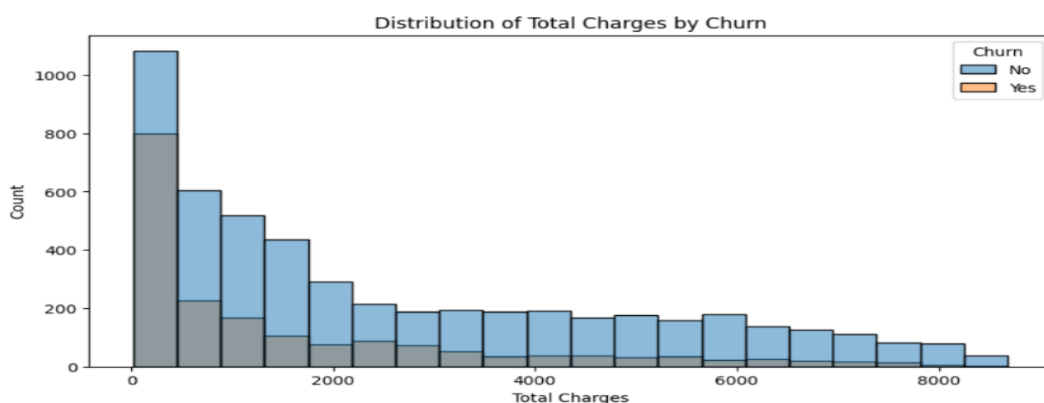


Reveals:

- Higher churn among customers with high monthly charges suggests price dissatisfaction.

• Actionable Strategy:

- **Offer discounts** or tiered plans to reduce churn in high-cost segments.
- **Retention Strategies:** The company should focus on retaining customers with higher monthly charges. This could involve offering discounts, loyalty programs, or personalized services to incentivize them to stay.
- **Pricing Strategies:** The company might consider offering more affordable plans or tiered pricing options to attract and retain price-sensitive customers



Reveals:

- Low total charges for churned customers might indicate early churn or dissatisfaction at the start.

Actionable Strategy:

- **Investigate why low-charge** customers are leaving and address their issues proactively.
- **Retention Strategies:** The company should focus on retaining customers with higher total charges. This could involve offering discounts, loyalty programs, or personalized services to incentivize them to stay.
- **Pricing Strategies:** The company might consider offering more affordable plans or tiered pricing options to attract and retain price-sensitive customers.