

Project: Customer Churn Analysis

Business Requirements:

Objective: Analyse customer data to identify factors contributing to customer churn and provide actionable recommendations to improve customer retention.

Key Questions to Answer:

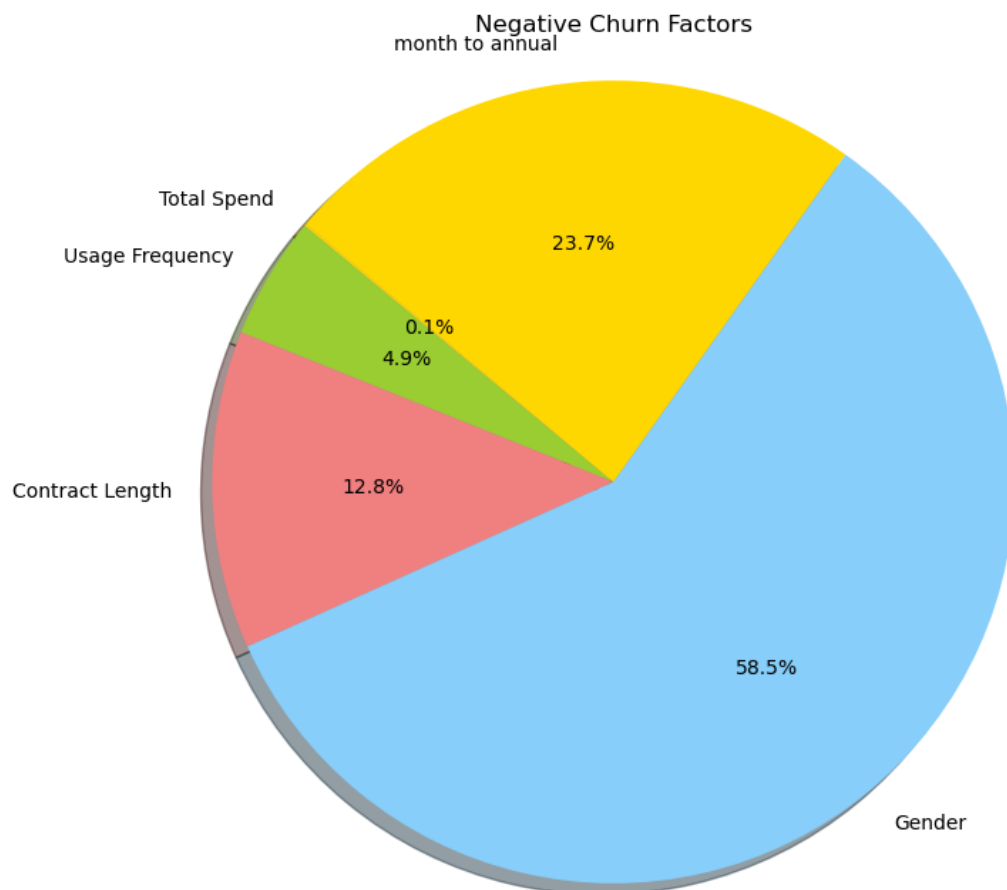
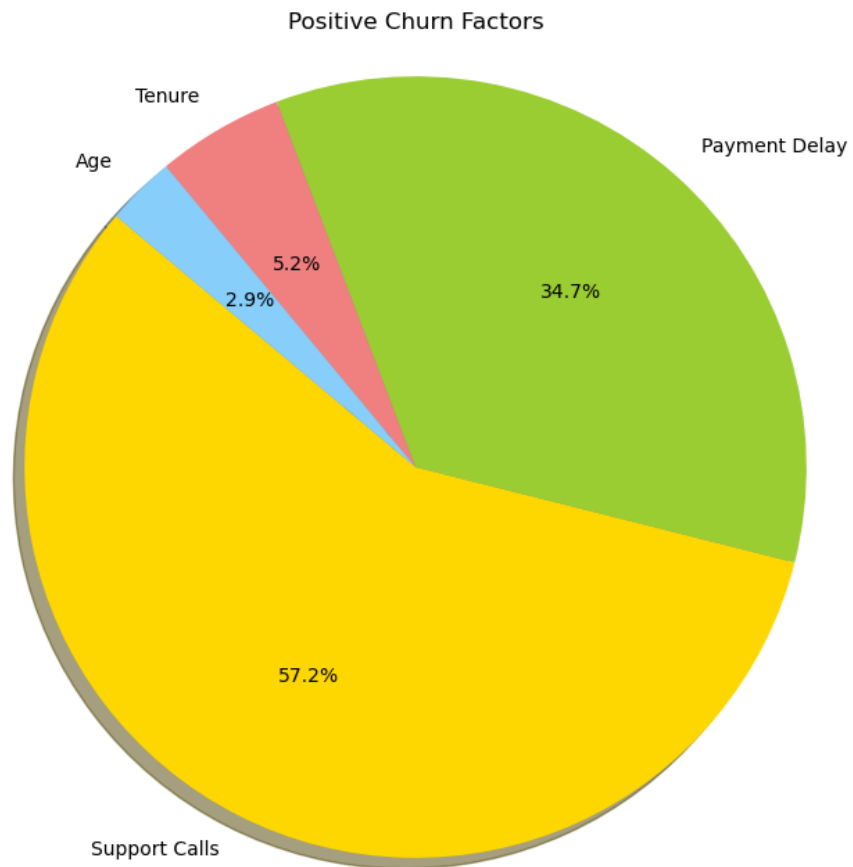
- 1. What are the main factors contributing to customer churn?
- 2. Can we identify any patterns or trends in the churn behaviour of different customer segments?
- 3. How effective are our current retention strategies in retaining customers?
- 4. What recommendations can we make to reduce churn rates and improve customer satisfaction?

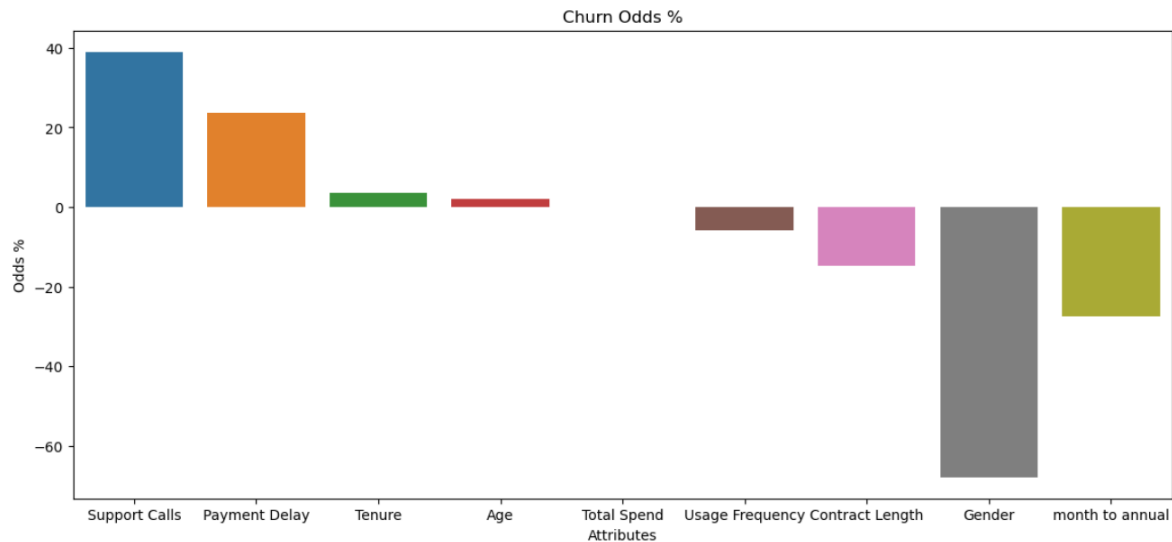
Introduction

To analyse customer churn, we utilized a logistic regression model, appropriate due to the binary nature of the churn data (1 indicating a customer leaving and 0 indicating a customer staying). This model provided insights into the key factors contributing to customer churn and helped identify patterns in churn behaviour among different customer segments.

Main factors contributing to customer churn

	Attributes	Odds Ratio	Odds %
4	Support Calls	1.390134	39.013380
5	Payment Delay	1.236766	23.676611
2	Tenure	1.035723	3.572328
0	Age	1.019589	1.958940
7	Total Spend	0.999000	-0.099950
3	Usage Frequency	0.942613	-5.738750
6	Contract Length	0.851292	-14.870793
8	month to annual	0.724698	-27.530181
1	Gender	0.321165	-67.883491





The logistic regression analysis revealed the significant factors contributing to customer churn, which are visually represented in the following bar plot and pie charts illustrating the odds percentages for each factor.

- **Support Calls:** An increase of one support call corresponds to a 39% higher likelihood of churn.
- **Payment Delay:** Each additional month of payment delay results in a 23.67% increased chance of churn.

Conversely, the most significant negative churn factors were:

- **Gender:** Males are 67.9% less likely to churn compared to females.
- **Contract Length:** Transitioning from a monthly to an annual contract reduces the churn probability by 27.5%.

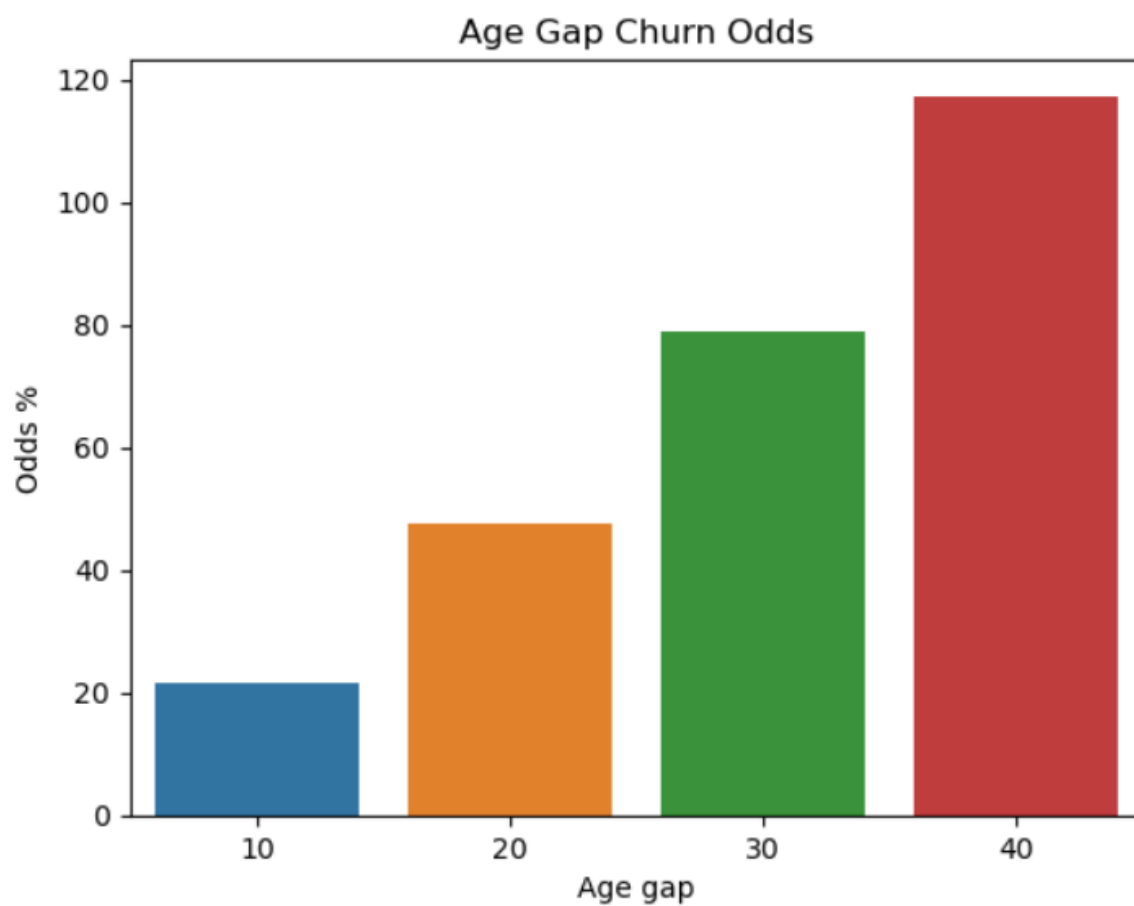
Other factors such as Tenure, Age, Total Spend, and Usage Frequency had a minor impact on churn when considering a one-unit increase. Notably, an additional month with the company results in a 3.57% increase in churn probability, indicating that longer tenure customers have a higher propensity to leave.

Patterns or trends in the churn behaviour of different customer segments

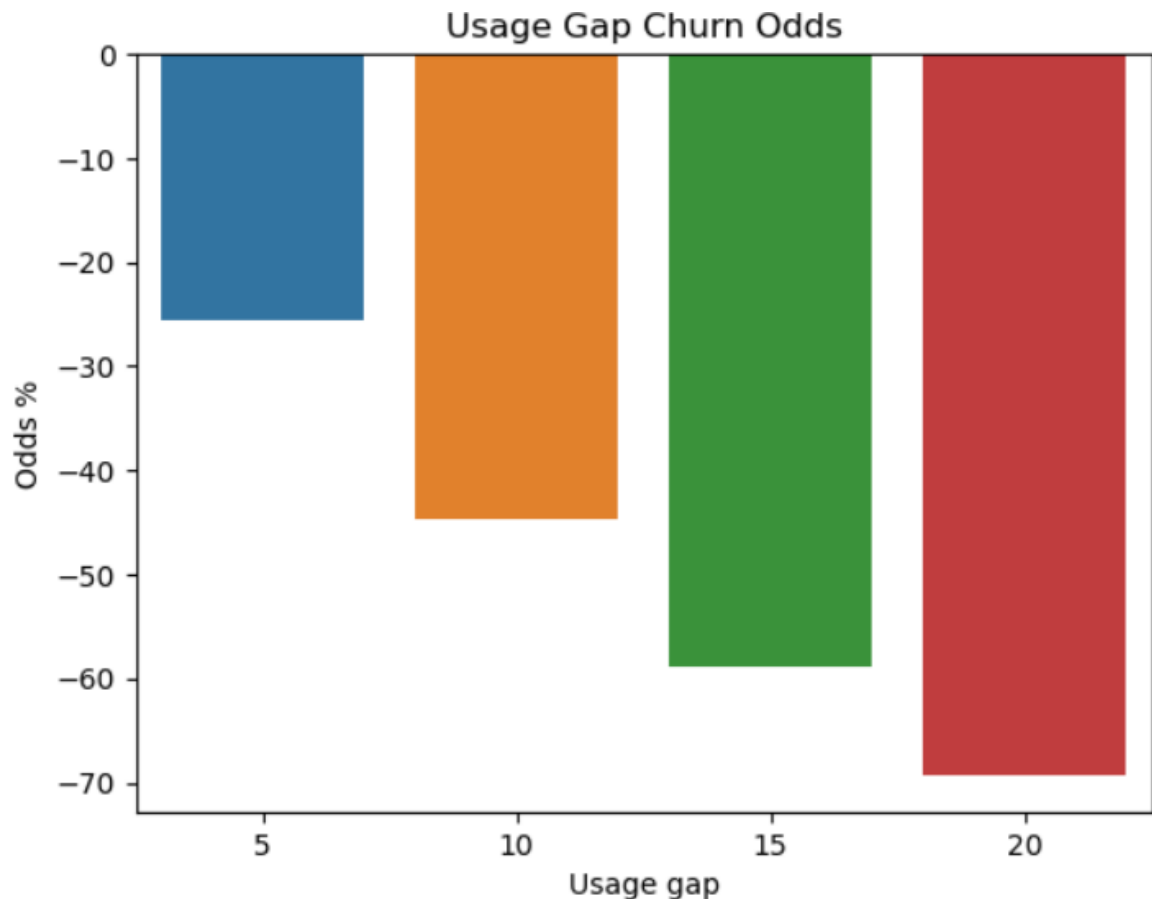
The analysis highlighted specific customer segments with distinct churn patterns:

- **Gender:** Males exhibit a significantly lower likelihood of churn.
- **Contract Length:** Customers on annual contracts are less likely to churn compared to those on monthly or quarterly contracts.

	Age gap	Odds	Odds %
0	10	1.0	21.0
1	20	1.0	47.0
2	30	2.0	79.0
3	40	2.0	117.0



	Usage gap	Odds	Odds %
0	5	1.0	-26.0
1	10	1.0	-45.0
2	15	0.0	-59.0
3	20	0.0	-69.0



Age:

Our analysis indicates that older customers exhibit a higher likelihood of churn. As age increases, the probability of churn also rises, suggesting that older customers are more inclined to leave. Specifically, we observed the following trend:

- A 10-year age gap results in a 21% higher chance of churn.
- A 20-year age gap results in a 47% higher chance of churn.
- A 30-year age gap results in a 79% higher chance of churn.
- A 40-year age gap results in a 117% higher chance of churn.

This insight underscores the importance of understanding the impact of age on churn dynamics and tailoring retention strategies accordingly.

Usage Frequency:

Conversely, our analysis revealed that increased usage frequency significantly decreases the likelihood of churn. Customers who engage with the service more frequently demonstrate lower churn probabilities. Specifically, we observed the following trend:

- Increasing usage by 5 times per month decreases churn by 26%.
- Increasing usage by 10 times per month decreases churn by 45%.
- Increasing usage by 15 times per month decreases churn by 59%.
- Increasing usage by 20 times per month decreases churn by 69%.

This finding highlights the value of fostering active engagement and usage among customers to enhance retention rates and promote long-term loyalty.

Similar trends were observed for Tenure and Total Spend, with increasing total spend being linked to increased usage frequency. The longer the tenure, the higher the likelihood of churn, reinforcing the findings from the age analysis.

Effectiveness of current retention strategies in retaining customers

Without specific details on current retention strategies, we can infer the effectiveness based on the analysis:

- **Customer Support:** The significant impact of support calls on churn suggests that existing customer support strategies are not effective. Customers contacting support are more likely to leave, indicating dissatisfaction with issue resolution.
- **Payment Strategies:** Late payments are strongly correlated with higher churn, suggesting that current payment strategies are insufficient.
- **Retention of Long-term Customers:** Higher churn among long-term customers indicates that current retention efforts for this segment are ineffective.
- **Market Strategies:** Existing strategies to retain female customers are not working, whereas strategies targeting males appear to be effective.

Recommendations to reduce churn rates and improve customer satisfaction

Based on the analysis, the following recommendations are proposed to reduce churn and enhance customer satisfaction:

1. **Improve Customer Support:** Enhance the quality and effectiveness of customer support to reduce the number of support calls. Focus on resolving issues promptly and satisfactorily to increase customer retention.
2. **Optimize Payment Strategies:** Implement strategies to ensure timely payments, such as offering discounts for annual or upfront payments and flexible payment plans for financially struggling customers.

3. **Enhance Long-term Customer Retention:** Introduce loyalty programs and automated outreach strategies to reward long-term customers with exclusive benefits, ensuring they feel valued and less likely to churn.
4. **Target Male Customers:** Strengthen marketing efforts targeting males, especially younger males, to expand the customer base.
5. **Upsell Strategies:** Develop incentives to encourage customers on lower-tier packages to upgrade, thereby increasing their usage and commitment to the service.
6. **Increase Usage Frequency:** Implement strategies to boost service usage frequency, such as competitions, rewards, and engagement initiatives, to foster higher customer loyalty.

Conclusion

Implementing these strategies is expected to significantly reduce churn rates, thereby enhancing customer satisfaction and increasing profitability. A proactive approach in addressing the identified factors will ensure sustained customer engagement and long-term success.