

# Churn Analysis

**Domain:** Telecommunications  
**Function:** Customer Retention  
and Churn Analysis





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# Problem Statement

Customer churn is a significant challenge for the telecommunications industry, directly impacting revenue and profitability. Understanding the factors contributing to churn and identifying at-risk customers can help design effective retention strategies.





# Objective

The objective is to analyze customer data to identify patterns and factors associated with churn. The goal is to develop actionable insights to reduce churn rates, enhance customer retention, and increase overall customer satisfaction and lifetime value.





# Tools Used



## Analytical and Visual

Microsoft Excel



## Presentation

Microsoft Powerpoint





# Dataset Overview

**Data source:** Internet

**Time period:** 2015-2018

**Data size:** dataset\_telecom\_customer\_churn(7043, 43)

**Key columns:**

**Actual Columns:** Payment Method, Married, Gender, Contract, Number of Referrals, Total Revenue, Offer, Churn category, Churned

**Dax/Calculated columns:** churn%, age\_range, senior\_citizen, cltv



# Analysis Workflow







## Primary Insights



**26.54%**

Churn rate

**\$2,853.93**

Avg Customer  
Life time value

**13747**

Total Referral

**\$21.37M**

Total Revenue

**32.39**

Avg tenure(Months)

**\$13.8K**

Total Refunds

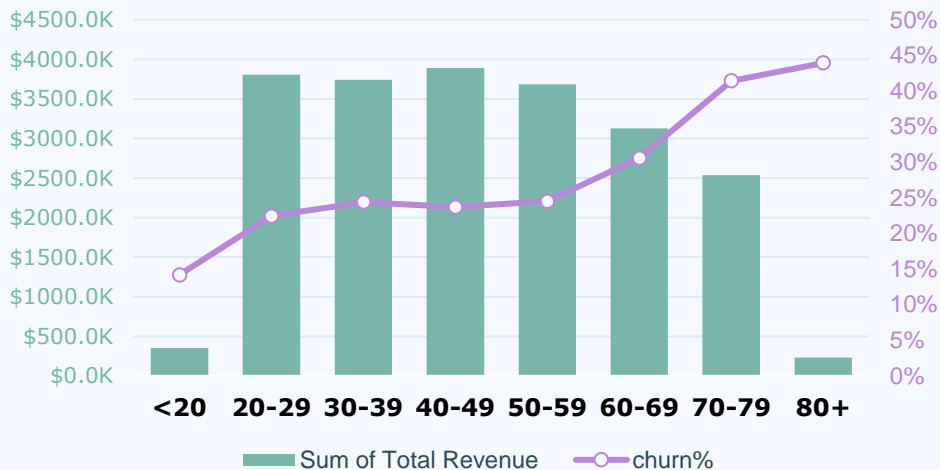
**\$63.78**

Avg monthly bill



# Secondary Insights

## Impact of Age on Sales and Churn Rate



### Recommendation:

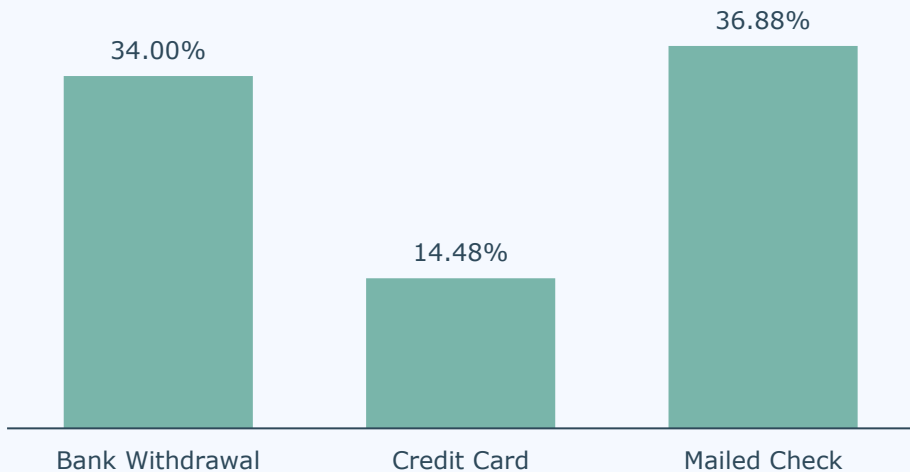
Implement simplified service plans, offer dedicated customer support, introduce loyalty programs, use targeted communication, and engage with community organizations to better retain customers in the 80+ age range.

80+ age range exhibit the highest churn rate and the lowest total revenue.



## Secondary Insights

**Churn rate by payment method**



**Recommendation:**

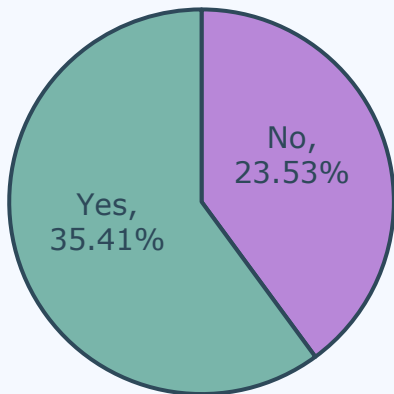
Promote the use of credit cards by offering incentives such as discounts or rewards for switching payment methods, and streamline the payment process for bank withdrawals and mailed checks to reduce churn.

Churn rate is higher for both  
bank and mailed withdrawal.



# Secondary Insights

**Churn rate by senior citizen**



**Recommendation:**

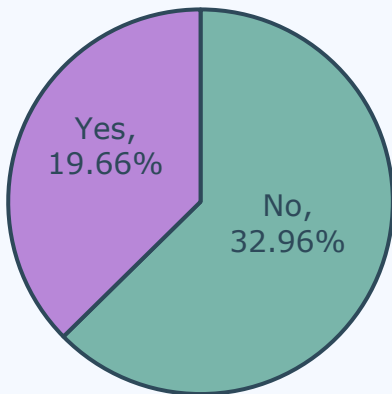
Enhance retention for senior citizens with tailored services, improved customer support, and targeted loyalty programs to reduce their churn rate.

Senior citizens have a higher churn rate compared to non-senior citizens.



# Secondary Insights

## Churn by marital status



### Recommendation:

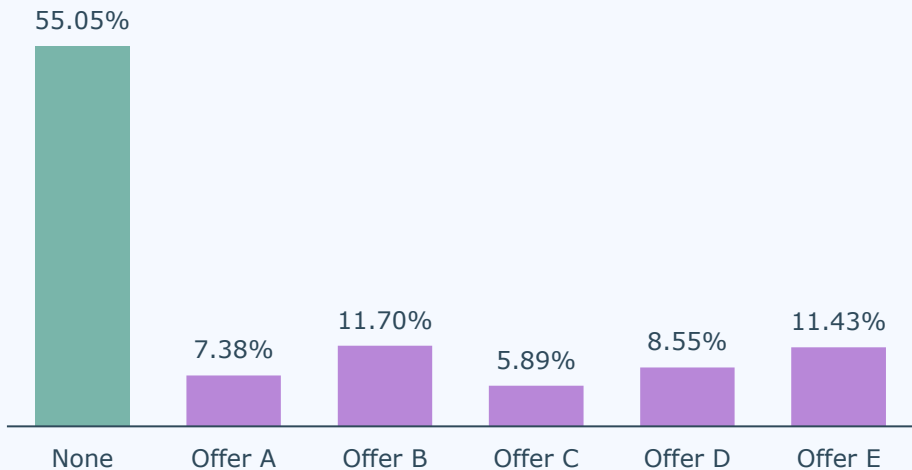
Implement targeted engagement strategies and personalized offers to reduce churn among non-married customers.

**Non-married** customers have a higher churn rate compared to married customers.



# Secondary Insights

**Churn rate by offer**



**Recommendation:**

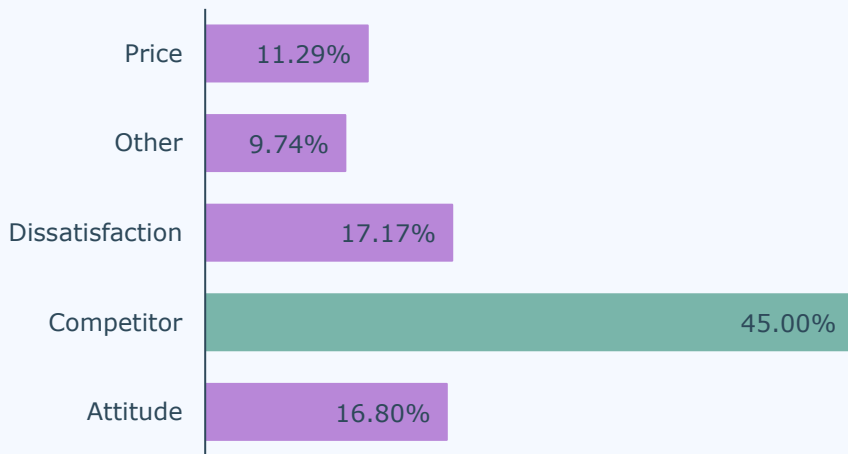
Increase customer retention by promoting and providing attractive offers to customers who are currently not receiving any offers.

Customer with **no offer** have significantly higher churn rate.



# Secondary Insights

**Churn rate by category**



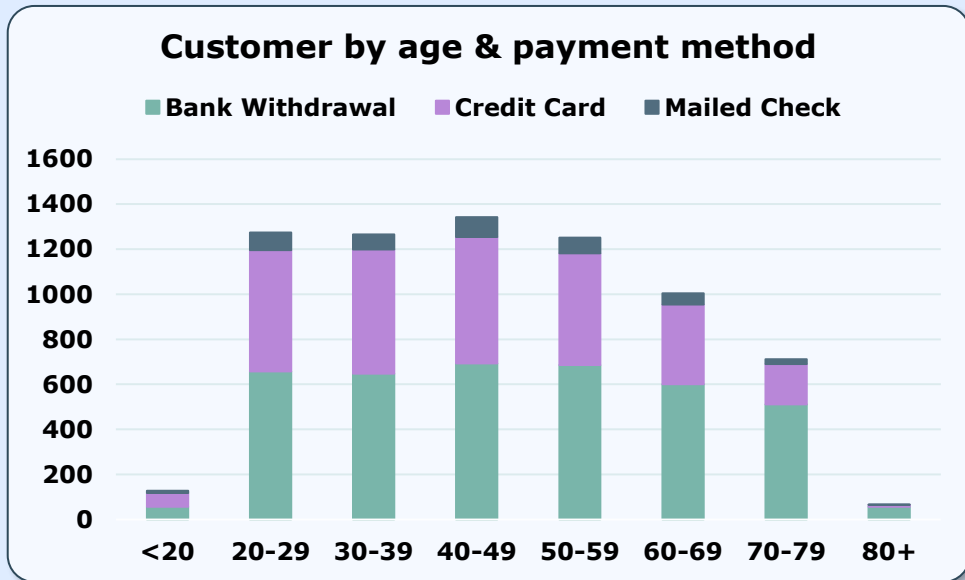
**Recommendation:**

Enhance competitive positioning by offering better value, unique features, and competitive pricing to reduce churn due to competitors.

**Competitor** related churn is causing nearly half of the customer losses.



## Secondary Insights



### Recommendation:

Promote alternative payment methods like Credit Card among older customers by offering incentives and educational resources. Also utilize current payment method by giving offers.

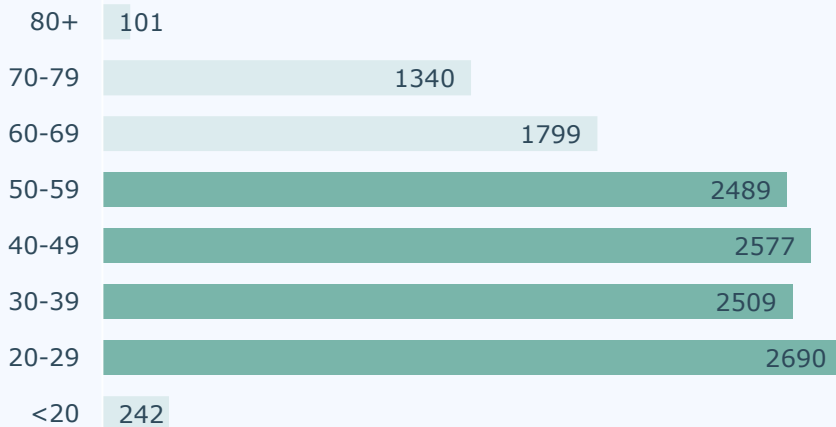
**Bank Withdrawal** is the most common payment method across all age groups, especially among customers aged 40 and above.





# Secondary Insights

## Referral by age



### Recommendation:

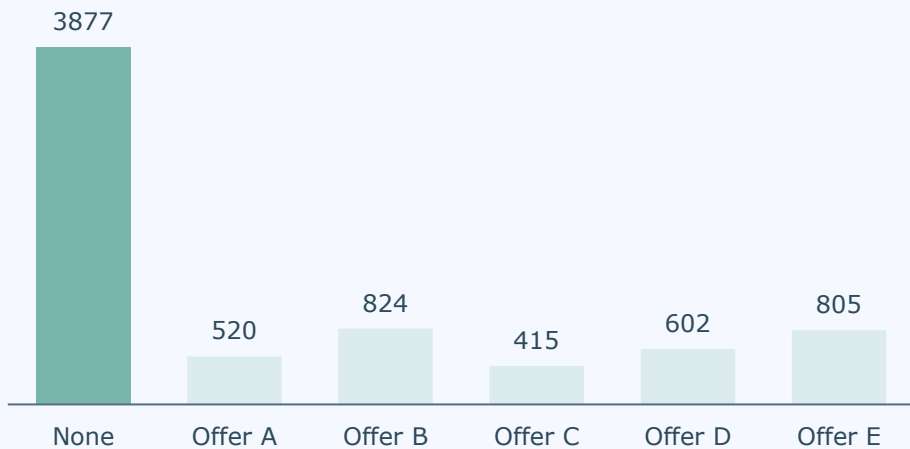
Leverage this demographic by implementing targeted referral programs and incentives to further encourage and reward referrals among customers aged 20-59.

Customers aged 20-59 are the most active in making referrals.



# Secondary Insights

**customer by offer**



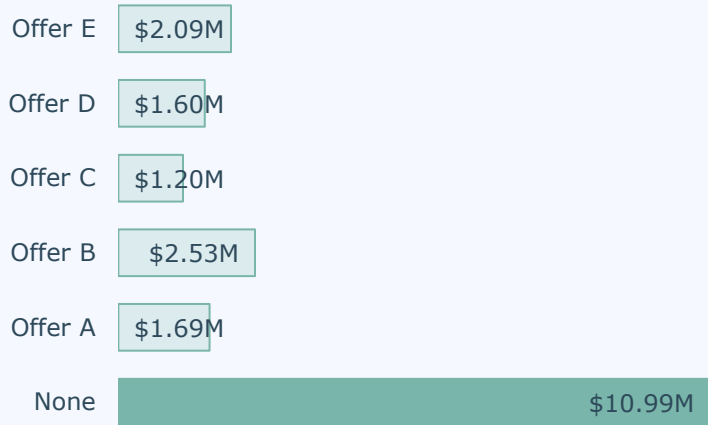
## **Recommendation:**

Increase customer engagement and retention by expanding the reach of promotional offers. Consider introducing new offers or enhancing existing ones to target a larger portion of the customer base.

The majority of customers do not receive any offers.

# Secondary Insights

## CLTV by offer



### Recommendation:

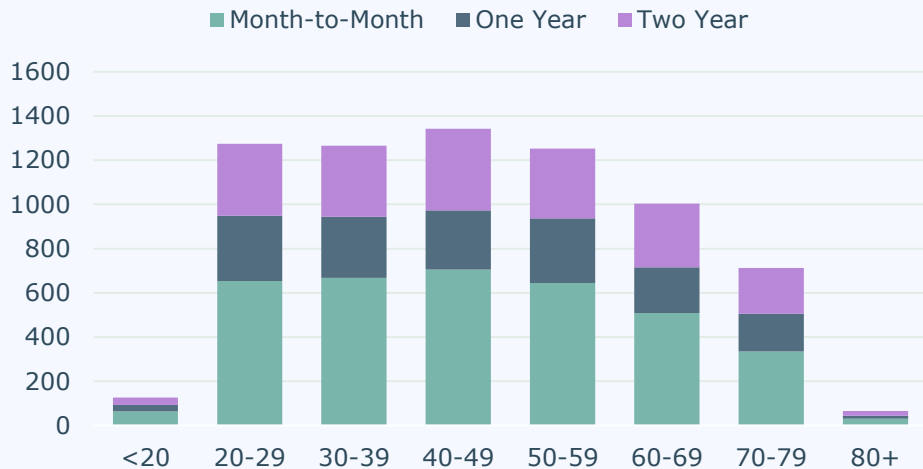
Analyze why customers without offers have higher CLV and apply successful elements to offer-based strategies. Additionally, expand and optimize offers to boost CLV across a broader customer segment.

Customer Lifetime Value (CLV) is **highest for customers without any offers**, and most customers do not receive offers.



## Secondary Insights

**Customer by age and contract**



Month-to-Month contracts are preferred by customers across all age groups.

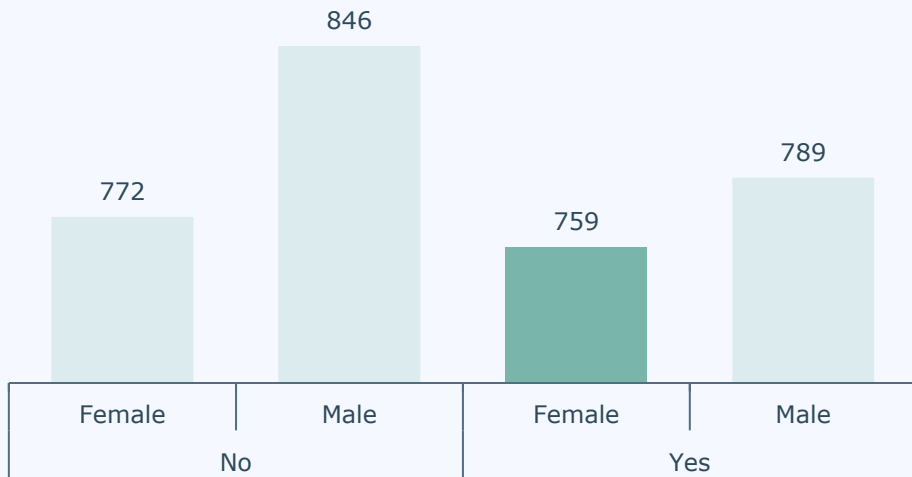
**Recommendation:**

Promote the benefits of longer-term contracts to customers currently on Month-to-Month plans, such as offering discounts or added features, to encourage greater commitment and reduce churn.



## Secondary Insights

**Offer by married and gender**



**Recommendation:**

Address the disparity by increasing the number of targeted offers for married females to boost engagement and satisfaction within this demographic.

**Married females** receive fewer offers compared to other groups.



# Key findings



This analysis provides a comprehensive overview of customer churn, revenue, and retention metrics across various demographic and behavioral segments. The key insights reveal a churn rate of 26.54%, an average customer lifetime value of \$2,853.93, 13,747 total referrals, and a revenue of \$21.37M. The average tenure for customers is 32.39 months, with an average monthly bill of \$63.78.

## **Key findings include:**

1. Customers aged 80+ and those using bank withdrawal or mailed check payment methods exhibit the highest churn rates.
2. Senior citizens and non-married customers also experience higher churn rates compared to their counterparts.
3. Customers without any offers have a significantly higher churn rate of 55.05%.
4. Competitor-related churn accounts for nearly half of customer losses.
5. Older age groups predominantly use bank withdrawal, while younger demographics are more active in making referrals.
6. The majority of customers do not receive any offers, yet those without offers have higher lifetime values.
7. Month-to-month contracts are preferred across all age groups, and married females receive fewer offers compared to other groups.



# Recommendations



- Enhance retention strategies for high-churn segments, such as senior citizens, older age groups, and non-married customers, through simplified service plans, dedicated support, loyalty programs, and targeted communication.
- Promote the adoption of more secure and convenient payment methods, like credit cards, among older customers by offering incentives and assistance.
- Expand the reach of promotional offers and introduce new offers to engage a broader customer base, increasing retention and lifetime value.
- Analyze the success factors of customers without offers and apply those insights to optimize offer-based strategies for the rest of the customer base.
- Encourage longer-term contract commitments by promoting the benefits and offering discounts or added features to customers on month-to-month plans.
- Address the disparity in offers for married females by increasing targeted promotions and personalized engagement strategies for this demographic.
- Enhance competitive positioning by offering better value, unique features, and competitive pricing to reduce churn due to competitors.
- Leverage the active referral demographic (ages 20-59) by implementing targeted referral programs and incentives to drive further customer acquisition.



# Dashboard

## Customer Churn Dashboard

**32.39**  
Avg tenure(Months)

**Offer**  
Offer E

**26.54%**  
Churn rate

**\$2,853.93**  
Avg Customer Life time value

**\$63.78**  
Avg monthly bill

**\$21.37M**  
Total Revenue

**\$13.8K**  
Total Refunds

**13747**  
Total Referral

**City**  
Acapulco  
Adelanto  
Aguascalientes  
Aguascalientes

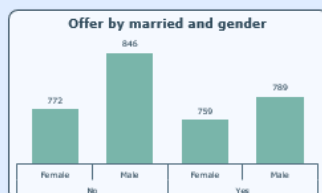
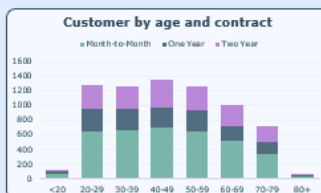
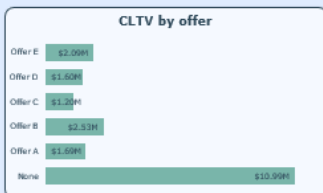
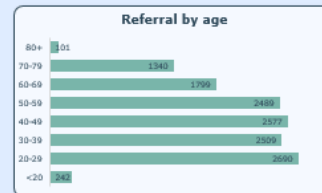
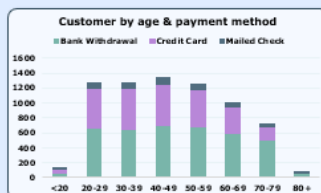
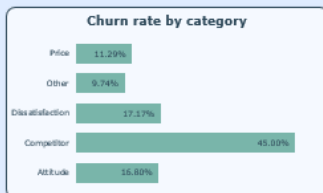
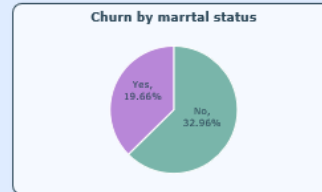
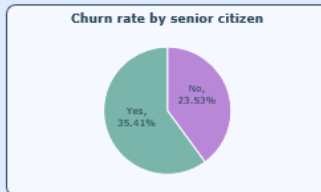
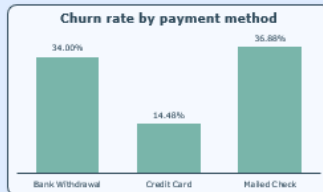
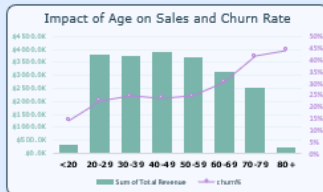
**Gender**  
Female  
Male

**senior citizen**  
No  
Yes

**Married**  
No  
Yes

**Churn Category**  
Attitude  
Competitor  
Dissatisfaction  
Other  
Price  
Age range  
<20  
20-29  
30-39  
40-49  
50-59

**Customer Status**  
Churned  
Joined  
Stayed  
Payment Method  
Bank Withdrawal  
Credit Card  
Mailed Check  
Contract  
Month-to-Month  
One Year  
Two Year







# Thanks!

-Amanat Mahmud



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