

# CUSTOMER CHURN ANALYSIS

## Executive Summary, Detailed Report & Recommendations

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### 1. Executive Summary

Customer churn is a critical business problem that directly impacts revenue and long-term growth. This project analyzes customer churn behavior using a dataset containing **7,043 customers and 21 features**, including demographic information, service usage, contract types, billing methods, and payment behavior.

The primary objective of this analysis is to **identify the key factors contributing to customer churn** and provide **actionable, data-driven recommendations** to reduce churn and improve customer retention.

#### Key Findings:

- **Overall churn rate:** 26.5%
- Customers with **month-to-month contracts** show the highest churn
- **Fiber optic internet users** churn significantly more than other users
- **Senior citizens** have a much higher churn rate
- **Low-tenure customers (0–12 months)** are the most vulnerable
- **Electronic check payment method** is associated with higher churn

The analysis indicates that **contract type, tenure, service type, and payment behavior** are the strongest drivers of churn.

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### 2. Dataset Overview

- **Total Customers:** 7,043
- **Total Features:** 21
- **Target Variable:** Churn (Yes / No)
- **Churned Customers:** ~1,869
- **Retained Customers:** ~5,174

The dataset includes information related to:

- Customer demographics
- Internet and phone services
- Contract and billing details
- Monthly and total charges

- Payment methods
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### 3. Overall Churn Analysis

#### Overall Churn Rate

- **26.54% of customers have churned**
- Approximately **1 out of every 4 customers leaves the company**

This highlights a **significant retention challenge** and emphasizes the importance of churn reduction strategies.

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### 4. Churn Analysis by Key Factors

#### 4.1 Churn by Contract Type

- **Month-to-Month Contract:** 42.7% churn rate
- **One-Year Contract:** 11.3% churn rate
- **Two-Year Contract:** 2.8% churn rate

##### Insight:

Customers on long-term contracts are far more loyal. Month-to-month contracts represent the **highest churn risk group**.

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#### 4.2 Churn by Internet Service Type

- **Fiber Optic:** 41.9% churn rate
- **DSL:** 18.9% churn rate
- **No Internet Service:** 7.4% churn rate

##### Insight:

Despite being a premium service, **fiber optic users churn the most**, suggesting issues related to pricing, service quality, or unmet expectations.

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#### 4.3 Churn by Senior Citizen Status

- **Senior Citizens:** 41.7% churn rate
- **Non-Senior Citizens:** 23.6% churn rate

##### Insight:

Senior citizens churn at almost **double the rate**, indicating the need for simplified plans and better support.

#### 4.4 Churn by Customer Tenure

- **0–12 months:** 47.7% churn rate
- **12–24 months:** 28.7% churn rate
- **24–48 months:** 20.4% churn rate
- **48–72 months:** 9.5% churn rate

##### Insight:

Customer churn decreases significantly with longer tenure. **New customers are at the highest risk of churn.**

#### 4.5 Billing & Payment Method Insights

- Customers using **electronic check** show higher churn
- Customers with **automatic payments (bank transfer / credit card)** are more stable
- **Paperless billing combined with month-to-month contracts** increases churn risk

##### Insight:

Payment convenience and automation play a key role in customer retention.

### 5. Key Business Problems Identified

1. High churn among **new customers**
2. Excessive churn in **month-to-month contracts**
3. Unexpected churn in **fiber optic premium service users**
4. High churn among **senior citizens**
5. Payment-related friction leading to customer dissatisfaction

### 6. Recommendations

#### 6.1 Reduce Early-Stage Customer Churn

- Implement strong onboarding programs for the first 90 days
- Regular follow-up calls or messages
- Offer loyalty benefits after 3–6 months

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## **6.2 Promote Long-Term Contracts**

- Provide discounts for upgrading to 1-year or 2-year plans
  - Clearly communicate cost savings of long-term contracts
  - Bundle long-term plans with free add-ons
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## **6.3 Improve Fiber Optic Service Experience**

- Monitor service quality and downtime
  - Address customer complaints proactively
  - Align marketing promises with actual service delivery
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## **6.4 Senior Citizen Retention Strategy**

- Offer simplified plans with transparent pricing
  - Dedicated customer support
  - Personalized service recommendations
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## **6.5 Optimize Payment Methods**

- Encourage auto-pay with incentives
  - Reduce dependency on electronic checks
  - Promote secure and convenient payment options
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## **7. Expected Business Impact**

By implementing these recommendations:

- Potential **5–10% reduction in churn**
  - Improved customer lifetime value (CLV)
  - Reduced customer acquisition costs
  - Higher customer satisfaction and loyalty
  - Long-term revenue growth
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## **8. Conclusion**

This customer churn analysis demonstrates that churn is heavily influenced by **contract duration, customer tenure, service type, and payment behavior**. By focusing on **early customer engagement, long-term contract adoption, premium service improvements, and personalized retention strategies**, businesses can significantly reduce churn and improve profitability.