

# Customer Churn Analysis using Power BI

## Power BI Dashboard Analysis Report

**Objective:** To analyse customer churn patterns in a telecom company and identify key factors influencing churn, enabling proactive customer retention strategies.

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# INTRODUCTION

## Purpose Of Analysis

To analyse telecom customer data in order to identify churn patterns, understand key drivers such as tenure, contract type, and billing behavior, and provide actionable insights that support proactive customer retention strategies and informed business decisions.



## Problem Statement

A telecom company provides subscription-based services to thousands of customers. Recently, the company observed a decline in active customers, impacting monthly revenue.

## Business Objectives

- 1 Identify churn patterns and high-risk customer.
- 2 Determine the key drivers of customer churn.
- 3 Enable proactive retention strategies.

## Dataset Overview

### Dataset Overview – Customer Churn Analysis

The dataset contains customer-level information from a telecom service provider, capturing demographic details, subscription characteristics, service usage, and billing information. It is designed to analyse customer behaviour and identify factors influencing customer churn.

◆ Key Dataset Details

- Total Records: 7,043 customers
- Total Columns: 21 features
- Target Variable: Churn (Yes / No)

◆ Column Categories

- Customer Demographics: Gender, Senior Citizen, Partner, Dependents
- Account Information: Tenure, Contract Type, Paperless Billing, Payment Method
- Service Details: Internet Service, Phone Service, Streaming Services, Tech Support
- Billing Information: Monthly Charges, Total Charges
- Churn Indicator: Identifies whether a customer has churned or not

◆ Purpose of the Dataset

This dataset enables the analysis of customer churn patterns, identification of high-risk customers, and evaluation of key factors such as contract type, tenure, and billing behaviour to support proactive retention strategies.

## Scope of Data – Customer Churn Analysis

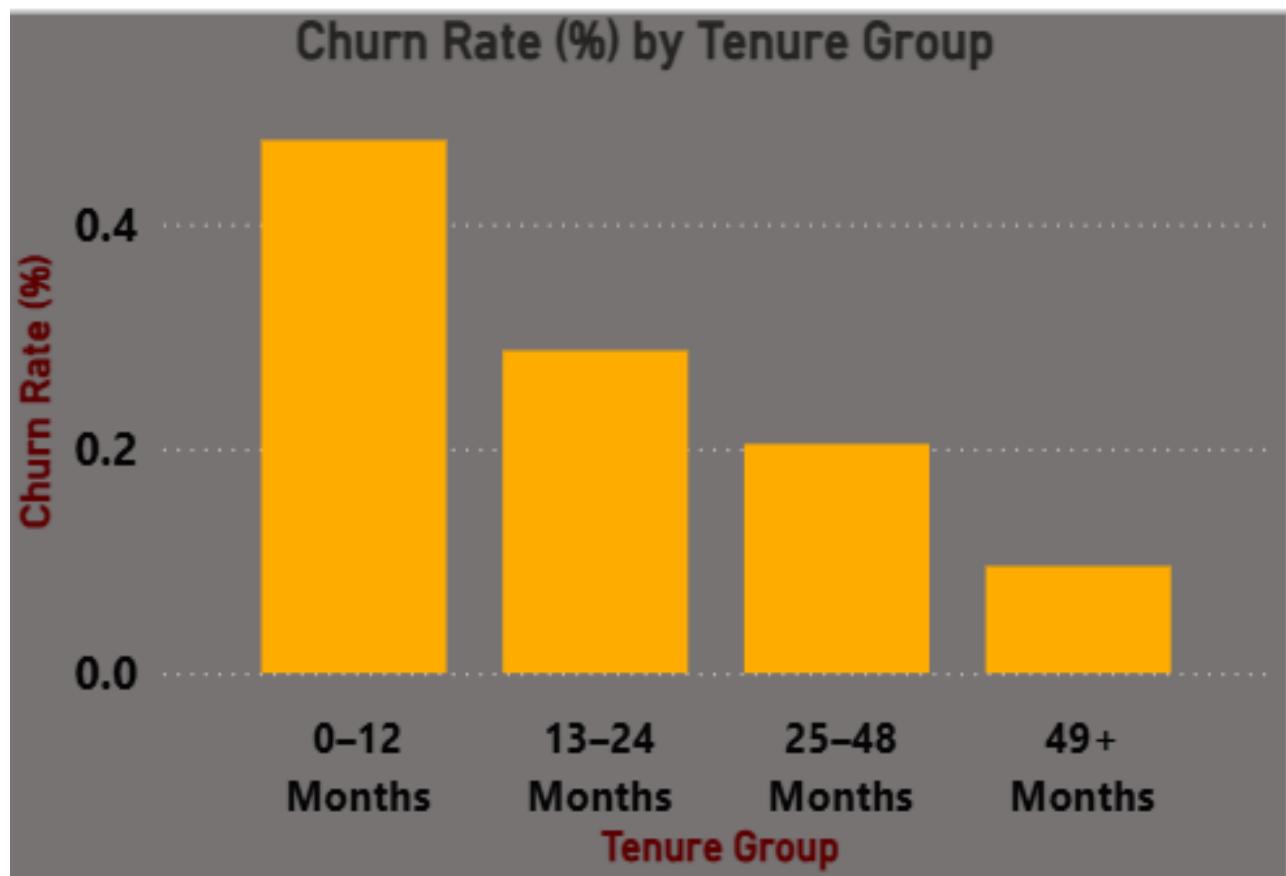
The scope of this dataset covers customer demographics, service subscriptions, contract details, and billing information of a telecom company, enabling a comprehensive analysis of customer churn behaviour.

## Questions

### **Analyse the distribution of customer tenure. What trends do you observe?**

The tenure distribution shows that a large proportion of customers have a short tenure, indicating many customers leave within the early months of service. As tenure increases, the number of active customers gradually declines, suggesting that customer retention

improves over time. Customers with longer tenure demonstrate greater loyalty and a lower likelihood of churn, while new customers represent a higher churn risk.

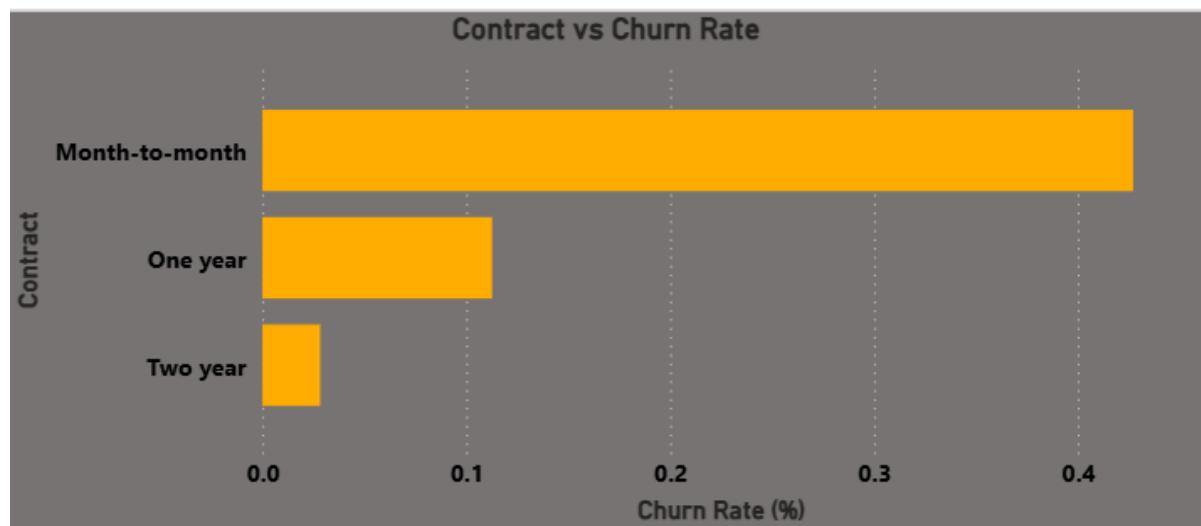


## Key Findings

Most customers have shorter tenure, and churn risk is higher in the early months, while long-tenure customers are more stable and loyal.

## Which contract types show the highest churn rate?

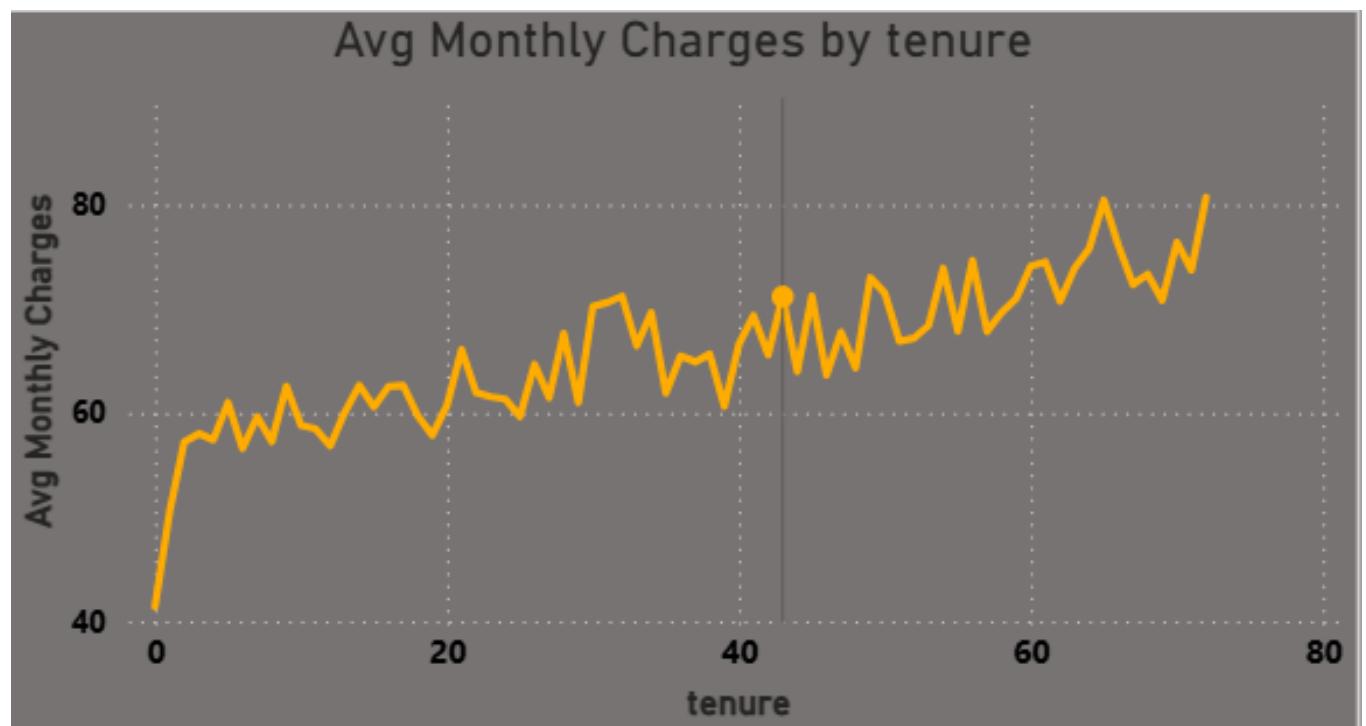
Customers on Month-to-Month contracts show the highest churn rate compared to customers on One-Year and Two-Year contracts.



## Key Findings

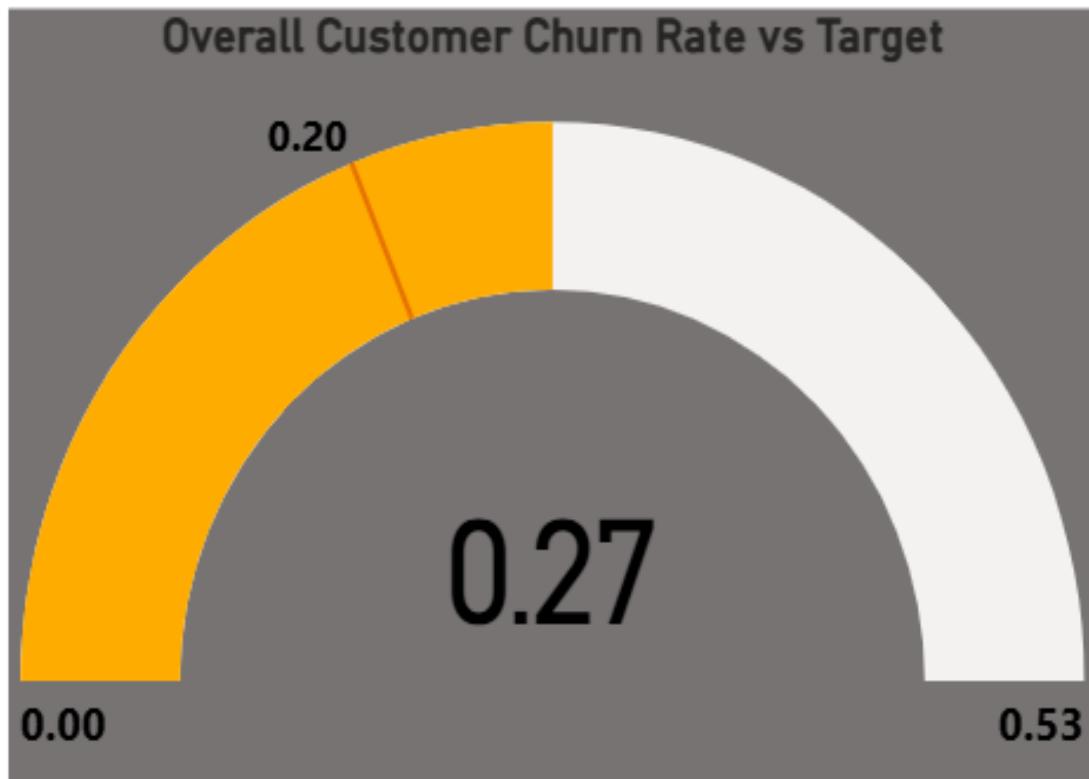
Month-to-month contract customers have the highest churn rate, while one-year and two-year contracts show significantly lower churn.

## Are monthly charges related to customer churn?



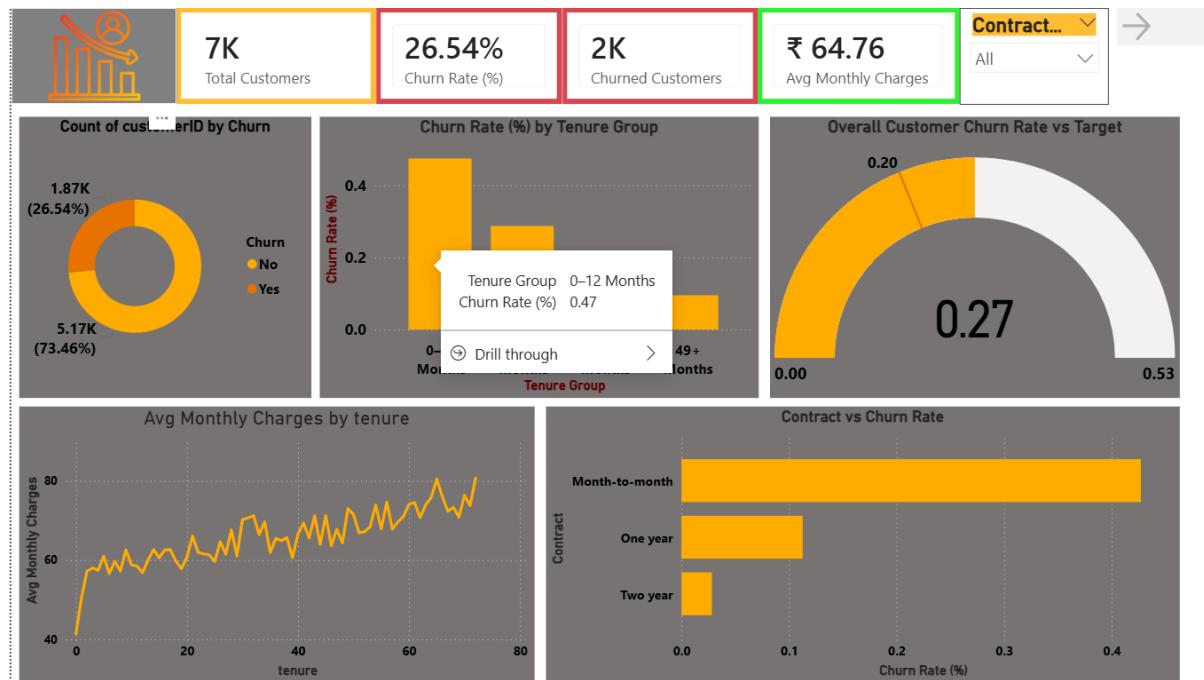
## Perform univariate analysis on churn status.

The univariate analysis of churn status shows that the majority of customers are non-churned, while a smaller but significant portion of customers have churned. This imbalance indicates that although most customers remain with the company, churn still represents a critical concern due to its direct impact on revenue.



## How can churn insights influence business decisions?

- Churn insights help businesses identify high-risk customers, allowing retention teams to take proactive actions such as personalized offers, contract upgrades, or service improvements.
- These insights support better pricing strategies, targeted marketing campaigns, and improved customer experience, ultimately helping reduce revenue loss and increase customer lifetime value.



## URL of the Power BI Dashboard

[https://app.powerbi.com/links/H59eIWqMEb?ctid=3a2d7341-3c86-481e-a489-9c5da69c9c95&pbi\\_source=linkShare](https://app.powerbi.com/links/H59eIWqMEb?ctid=3a2d7341-3c86-481e-a489-9c5da69c9c95&pbi_source=linkShare)

## Final Summary

This analysis examined telecom customer data **to understand churn behaviour** and identify key factors influencing customer attrition. The findings **reveal that customers with short tenure, month-to-month contracts, and higher monthly charges are more likely to churn, indicating higher risk among newly acquired and short-term customers.** In contrast, customers with longer tenure and long-term contracts demonstrate greater loyalty and stability.