

# Telecom Customer Churn & Retention Analysis

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Tools Used: Power BI, DAX, Power Query

GitHub Link: <https://github.com/rahulvagu/CUSTOMER-CHURN-RETENTION-ANALYSIS>

## Project Overview

This project analyzes customer churn behavior in the telecom sector using Power BI. The dashboard helps business teams understand why customers leave, identify at-risk segments, and take proactive actions to improve customer retention.

## Objectives

- Identify key drivers behind customer churn. - Build an interactive Power BI dashboard for churn monitoring. - Provide data-driven recommendations for reducing churn. - Enable business stakeholders to segment customers and analyze retention strategies.

## Dataset Description

The dataset includes demographic, account, and service usage details of telecom customers. Key columns include customer demographics, subscription type, contract duration, monthly charges, tenure, churn status, and service features such as phone, internet, and streaming services.

## Tools & Techniques

- Power BI for data modeling, visualization, and dashboard creation. - Power Query for data cleaning and transformation. - DAX for calculated measures and KPIs. - Data modeling techniques such as star schema and relationship management.

## KPIs Used

- Overall Churn Rate - Total Customers vs. Churned Customers - Average Tenure - Monthly Charges Analysis - Churn by Contract Type, Payment Method, and Internet Service - Customer Lifetime Value indicators

## Dashboard Components & Visuals Explanation

- Churn Overview Cards displaying high-level metrics. - Customer Segmentation charts based on tenure, charges, and services used. - Churn Breakdown visuals (bar charts, donut charts, heatmaps). - Contract & Payment Method Analysis to identify risk groups. - Retention Opportunity matrix showing which segments can be targeted. - Interactive filters for region, contract type, customer type, and service usage.

## **Key Business Insights**

- Month-to-month contract customers have the highest churn rate. - Customers with higher monthly charges are more likely to churn. - Fiber optic internet users show significantly higher churn compared to DSL users. - Customers with short tenure (0–12 months) are the most at-risk segment. - Electronic check payment users have disproportionately high churn.

## **Business Recommendations**

- Offer loyalty discounts or bundle plans to high-risk segments. - Improve fiber optic service reliability. - Promote long-term contracts through incentives. - Create targeted retention campaigns for high-charge customers. - Improve onboarding experience to reduce early churn in new customers. - Encourage secure and automated payment methods.

## **Conclusion**

This Power BI project provides a comprehensive view of customer churn behavior and empowers telecom companies to make informed decisions. The insights and recommendations generated help businesses reduce churn, enhance customer satisfaction, and improve long-term profitability.