



INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON

TELECOM CUSTOMERS CHURN ANALYSIS

- PRESENTED BY -

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COLOR PALETTE

- Pink color represent the Female ratio
- Blue color represent the Male ratio
- Cyan color represent the Graphs
- Yellow color represent the Paperless Billing Graphs
- Red color represent the Data Labels of Graph

BUSINESS OBJECTIVE

In today's competitive telecom market, customer retention has become a major challenge. Many customers are discontinuing their services due to factors like high monthly charges, limited support, poor internet service experience, or short-term contracts.

- **Churn** refers to the percentage of customers who stop using a company's services within a given period.
- The company is facing a significant churn rate of **27%**, which directly impacts revenue and long-term growth.
- However, the organization currently lacks a clear understanding of which customer segments are most likely to churn, and what key factors influence this decision.
- Therefore, it is essential to **analyze customer data and uncover patterns** that explain why customers are leaving and how to reduce churn in the future.

APPROACH TO PROVE THE BUSINESS OBJECTIVE

- **Identify churn patterns** among different customer segments such as gender, senior citizens, and contract types.
- **Analyze relationships** between churn and key factors like monthly charges, tenure, and internet service type.
- **Compare churn behavior** across different services and payment methods.
- **Measure churn rate and its impact on revenue** to understand financial implications.
- **Provide insights and recommendations** that can help improve customer satisfaction and loyalty.

DATA PREPARATION

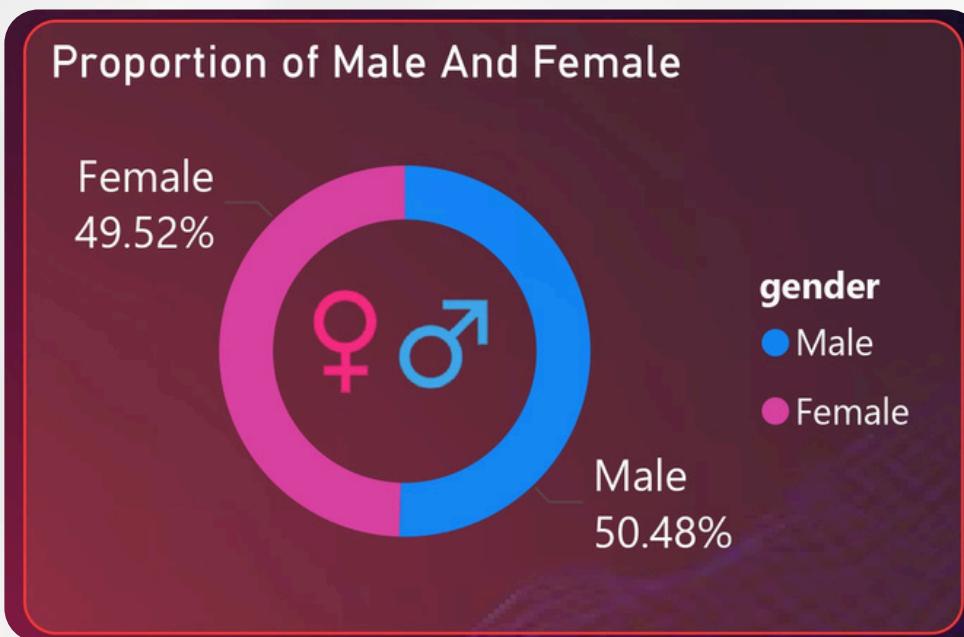
Dataset Used :

Telecom Customer Churn Data (7,042 records, 21 columns)

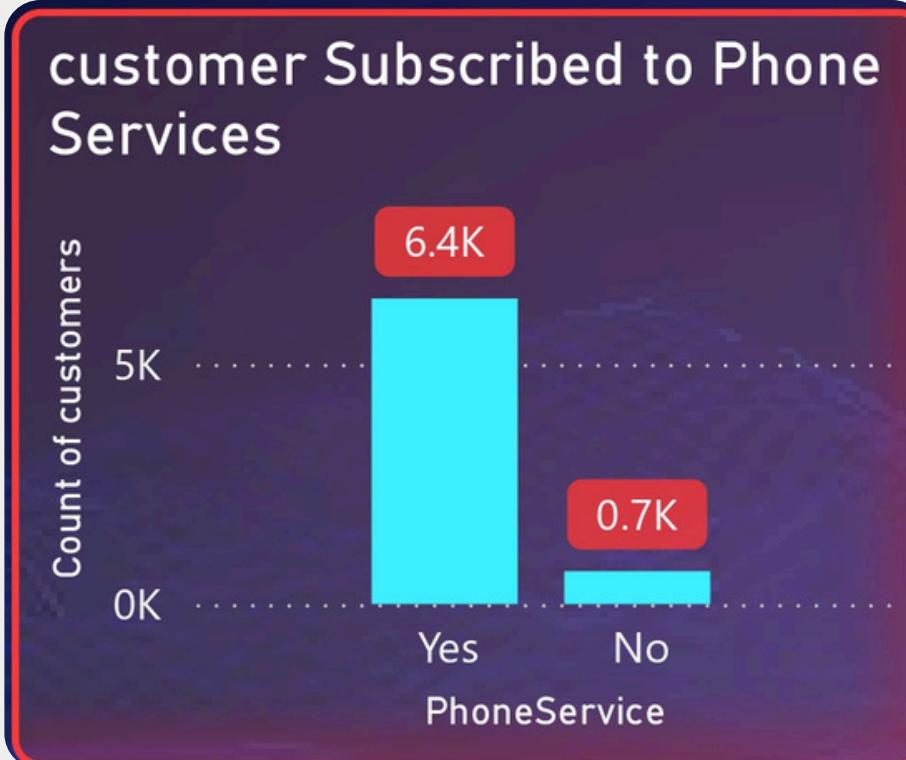
Steps Taken

1. Imported the dataset into Power BI.
2. Removed duplicates and handled missing values (mainly in TotalCharges).
3. Converted data types – e.g., SeniorCitizen (0/1 → Yes/No).
4. Created new columns like:
 - Tenure (in months)
 - Number of Services
 - % of Partners, Dependents, Senior Citizens

KEY VISUALS

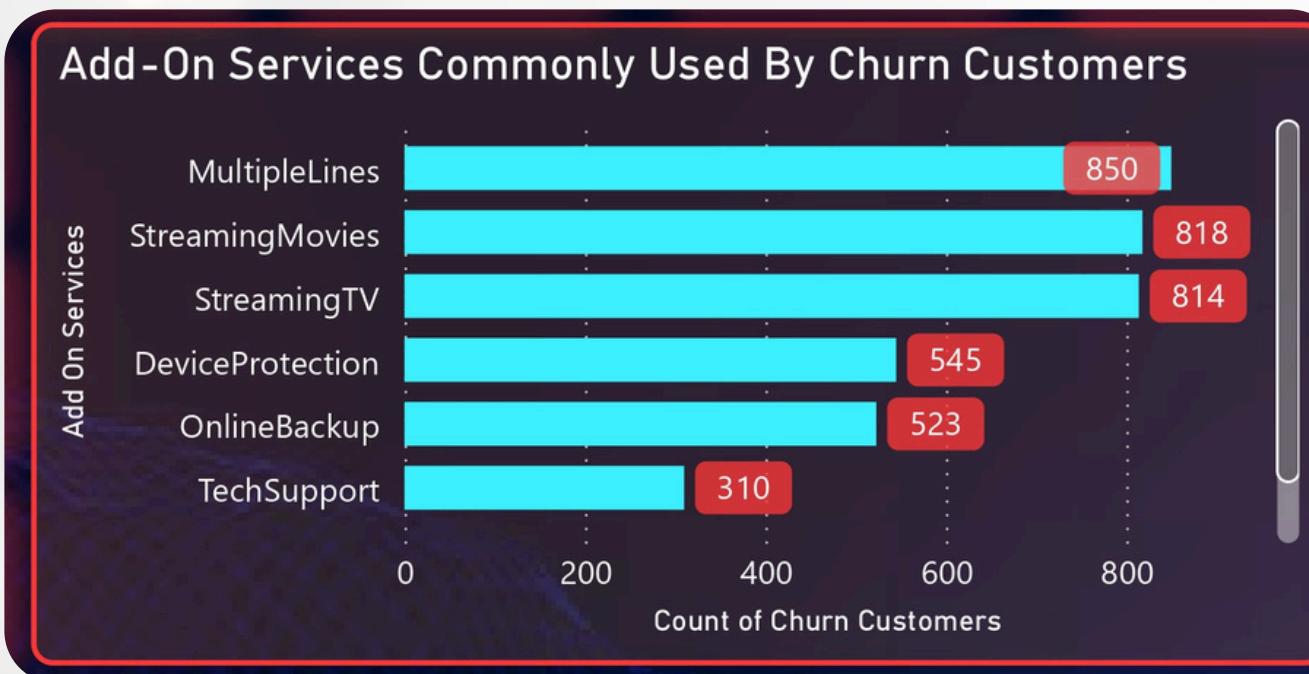


- The chart shows an almost equal split – **50.48% male** and **49.52% female** customers.
- This means gender has minimal impact on customer churn in this dataset.
- male and female customers face similar service experiences and challenges.

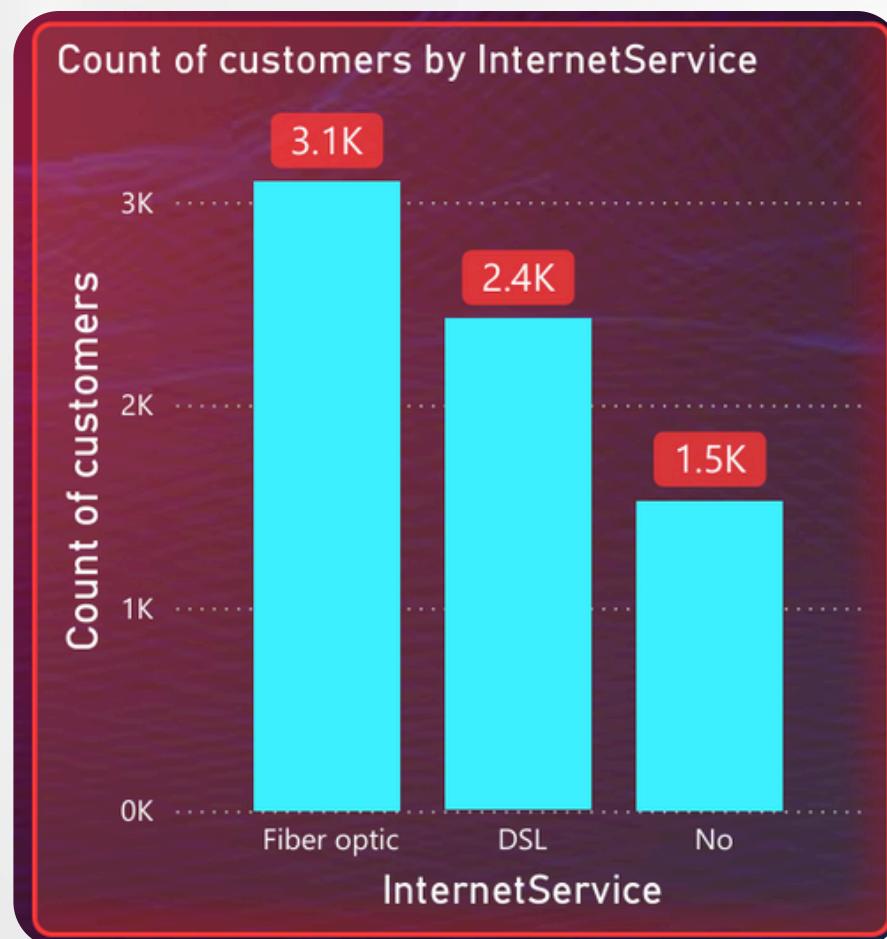


- Most customers have subscribed to **phone services**, showing **strong** service adoption.
- The chart gives a clear visual comparison between users with and without phone service.
- It helps identify that churn is influenced by other factors, not just phone service availability.

KEY VISUALS

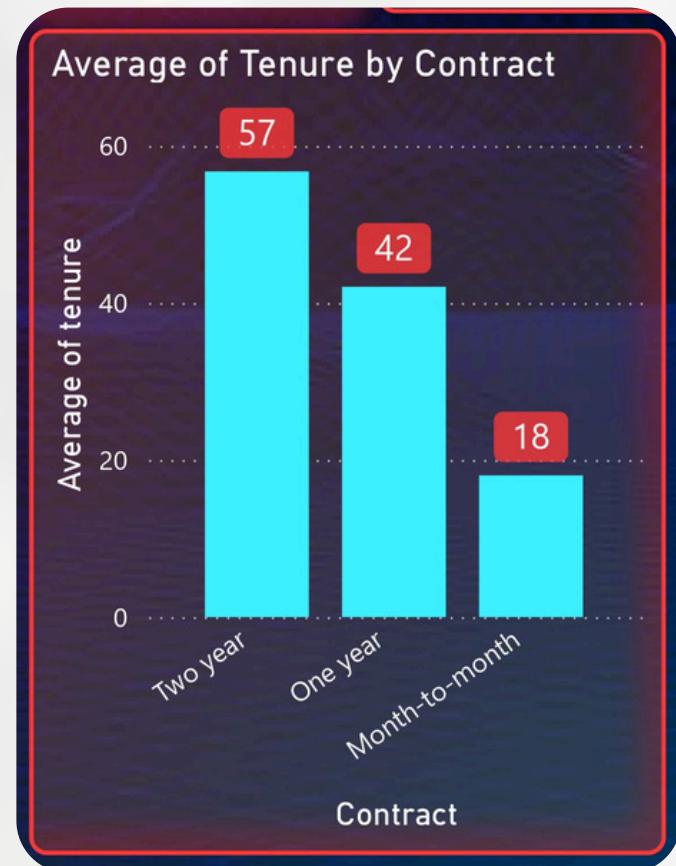


- **Multiple Lines, Streaming Movies, and Streaming TV** are the most common add-on services among churned customers.
- A large number of customers who churned were using **entertainment-related services**, suggesting these may **not strongly retain customers**.
- Services like **Tech Support** and **Online Backup** have fewer churned users, possibly because customers using these services feel **more supported and loyal**.

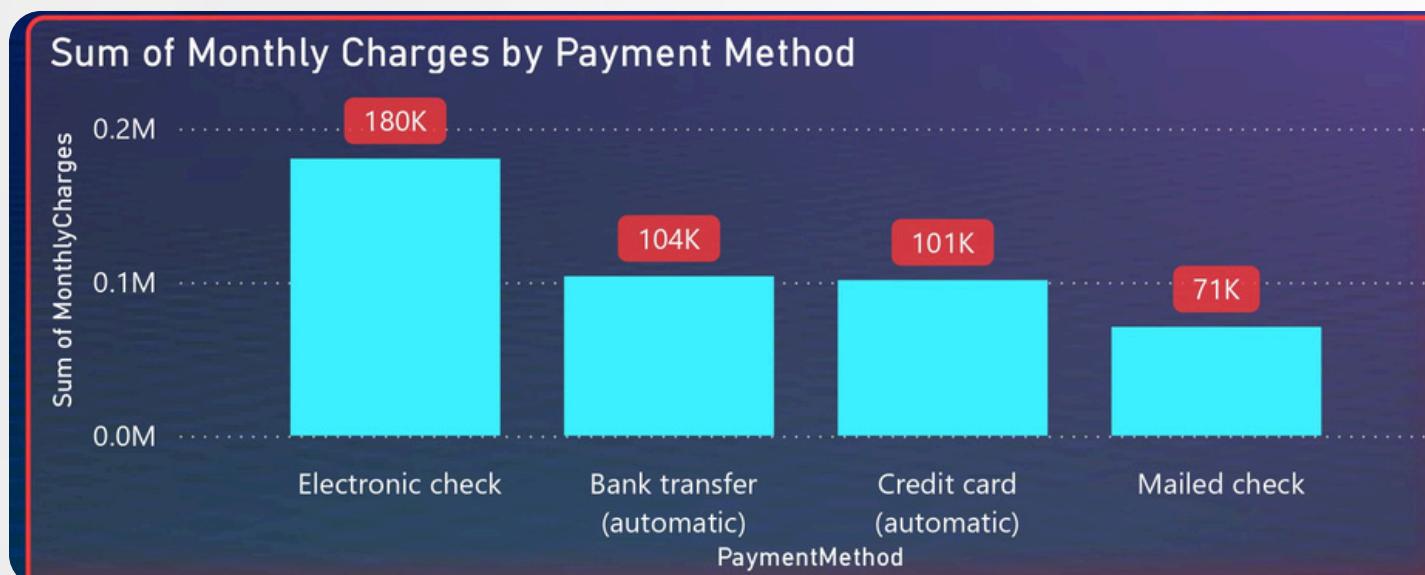


- **Fiber Optic** is the most used service with **3.1K customers**, indicating high demand or availability.
- **DSL** serves **2.4K** customers, showing moderate adoption compared to Fiber Optic.
- **1.5K** customers have **no internet service**, representing a potential **upsell opportunity**.

KEY VISUALS



- **Two-year** contracts have the **highest average tenure (57 months)**, showing stronger long-term retention.
- **One-year** contracts show moderate loyalty with an **average tenure of 42 months**.
- **Month-to-month** customers **stay the least**, averaging **only 18 months**, indicating **higher churn risk**.



- **Electronic Check** customers contribute the highest **monthly charges 180K**, indicating **strong usage** of this payment method.
- Automatic payment methods (**Bank Transfer and Credit Card**) together account for a major share of total revenue **205K**, showing a clear **preference for convenience**.
- **Mailed Check** shows the lowest monthly charges **71K**, highlighting it as the **least popular payment option** among customers.

DASHBOARD

Telecom Customers Churn Analysis

7043

Total customer

1869

Churn Customer

27.00

% Churn Rate

456K

Total Monthly Charges

16.06M

Sum of Total Charges

Proportion of Male And Female

Female
49.52%



gender
Male
Female

Male
50.48%

16.21

% Senior Citizen

48.30

% Partners / Couples

29.96

% Dependents

Add-On Services Commonly Used By Churn Customers

MultipleLines

850

StreamingMovies

818

StreamingTV

814

DeviceProtection

545

OnlineBackup

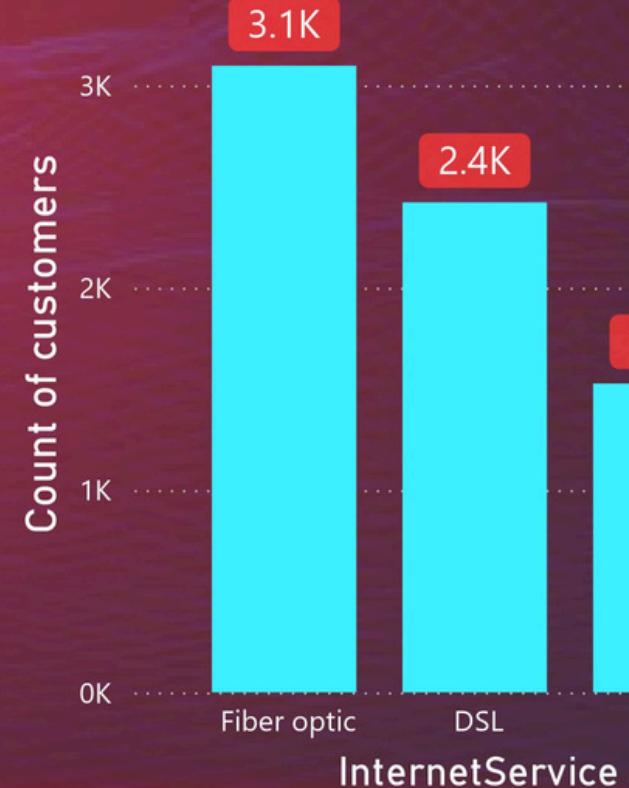
523

TechSupport

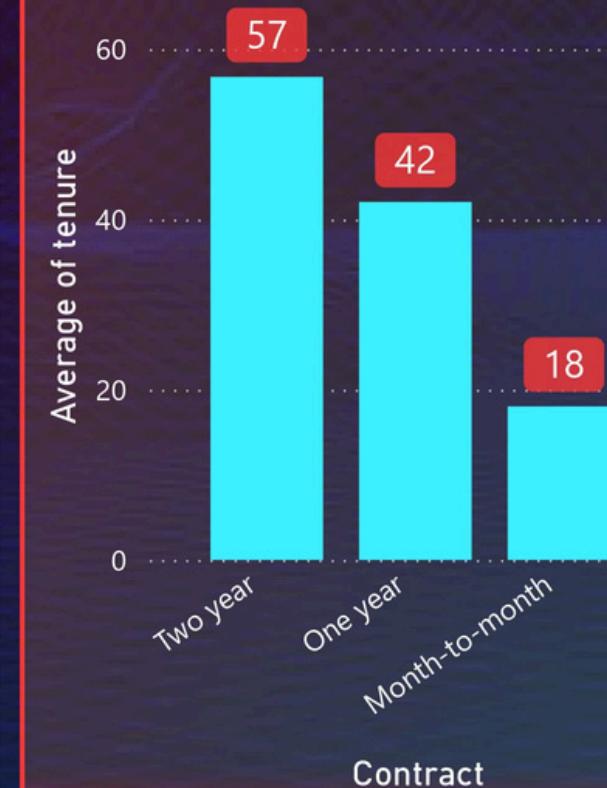
310

Count of Churn Customers

Count of customers by InternetService



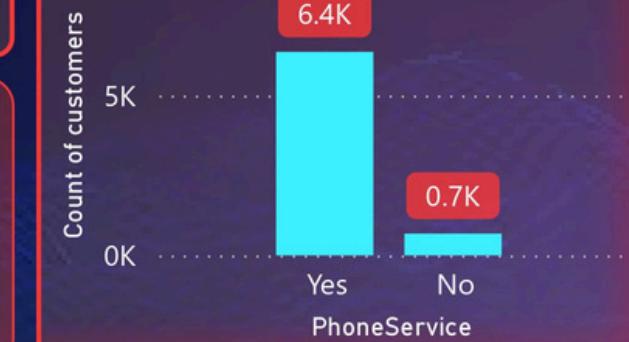
Average of Tenure by Contract



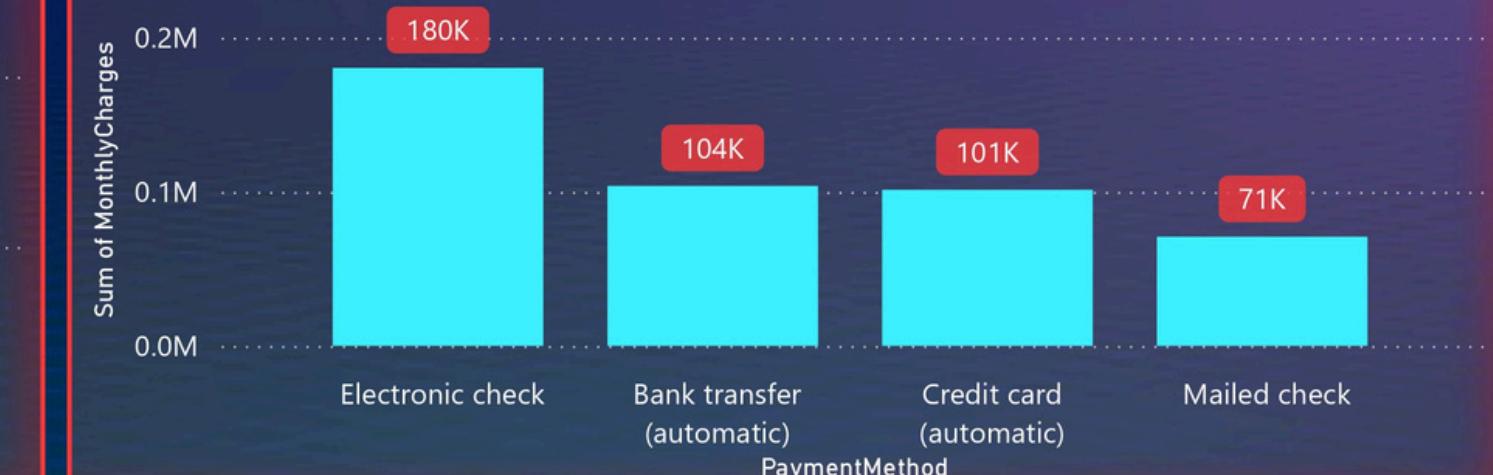
Count of Customers by Paperless Billing



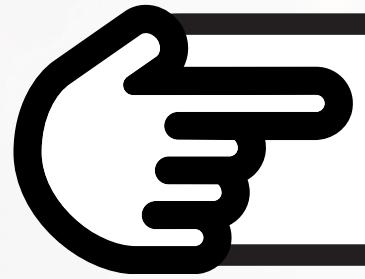
customer Subscribed to Phone Services



Sum of Monthly Charges by Payment Method



Link To The Dashboard



[click here](#)

CONCLUSION

The Telecom Customer Churn Analysis indicates that customer retention is a key business concern. The study shows higher churn among customers with **month-to-month contracts, higher monthly charges**, and those using **fiber optic internet services**.

Insights:

- Churn rate is significantly **higher for short-term contract customers**.
- Customers with higher monthly charges tend to discontinue services.
- **Fiber optic users** show **higher churn** compared to **DSL or no-internet users**.
- Senior citizens and customers without dependents are more likely to **churn**.

Recommendations:

- Introduce **loyalty benefits** and **targeted retention** offers for **at-risk customers**.
- Provide **better service quality** and **technical support for fiber users**.
- Encourage customers to **switch to long-term contracts** through **attractive incentives**.
- Develop **personalized plans** to enhance **customer satisfaction** and reduce churn.

THANK YOU

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