

Telecom Churn

Why customers leave!



Behind the project



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Introduction

Imagine a customer who relies on their telecom service every day making calls, paying bills, staying connected.

Then one day, they decide to leave for a competitor !

Every lost customer means lost revenue and higher costs to win new ones.



The challenge



 High customer churn in the telecom sector causes major revenue losses and raises the cost of acquiring new customers.



Strong competition



Service quality issues



Pricing and contracts



Customer support problems



At-risk customers

Objectives

- 1 **Identify churn drivers:** analyze customer characteristics, contracts, and service usage to reveal why customers leave.
- 2 **Support decision-making:** build an interactive dashboard to track churn trends and guide retention strategies.
- 3 **Quantify business impact:** measure revenue loss caused by churn and highlight the most affected segments.



Key Questions



- 1 What is the churn rate and how does it change over time?
- 2 What are the main reasons behind churn ?
- 3 What is the financial cost and who are the high-value customers to retain ?
- 4 Which customer segments are most at risk of leaving ?
- 5 How do pricing, contracts, and services influence churn ?



About Dataset

This dataset includes telecom customer information such as demographics, service subscriptions, contract types, usage patterns, charges, and churn status. It covers a large number of customers over recent periods.



Methodology & Data preparation

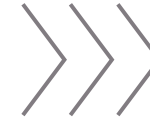
Data Gathering

Collect telecom customer churn data.



Cleaning & prep

Fix errors, handle missing values, format data.



Modeling & linking

Build relationships, structured datasets.



Visualization

Create interactive dashboards & visuals.



Analysis & KPIs

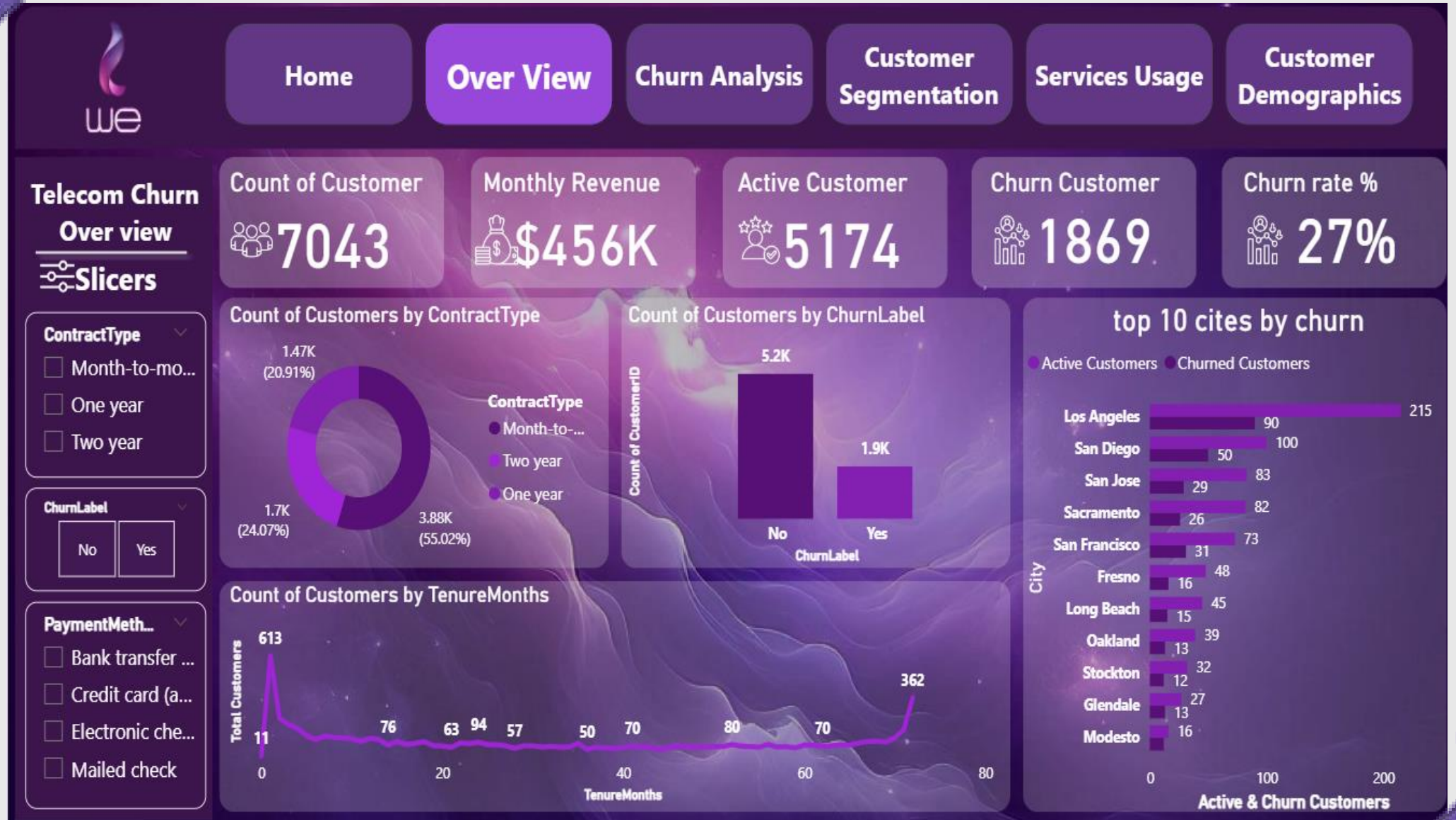
Calculate metrics, extract insights.



Dashboards Overview

Power BI Dashboards Analysis delivers interactive insights for the Telecom Churn project, covering Overview, Churn Analysis, Customer Segmentation, Service Usage, and Customer Demographics, enabling stakeholders to make informed, data-driven decisions.

Overview



Insights

➤ Indicating a significant portion of users leaving the service.

➤ Most customers are on month-to-month contracts (55%), showing flexibility but also higher churn risk.

➤ Majority of churned users have shorter tenure months, meaning early-stage customer loss is high.

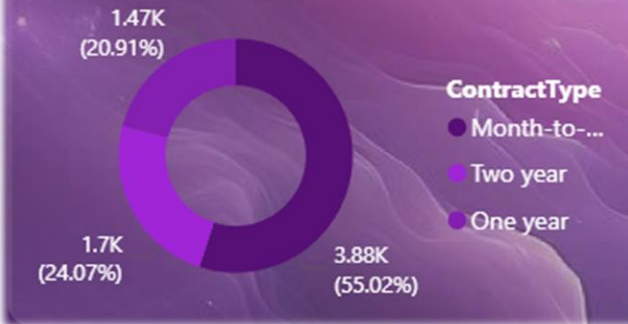
Count of Customer

 **7043**

Churn rate %

 **27%**

Count of Customers by ContractType



Count of Customers by TenureMonths



Insights

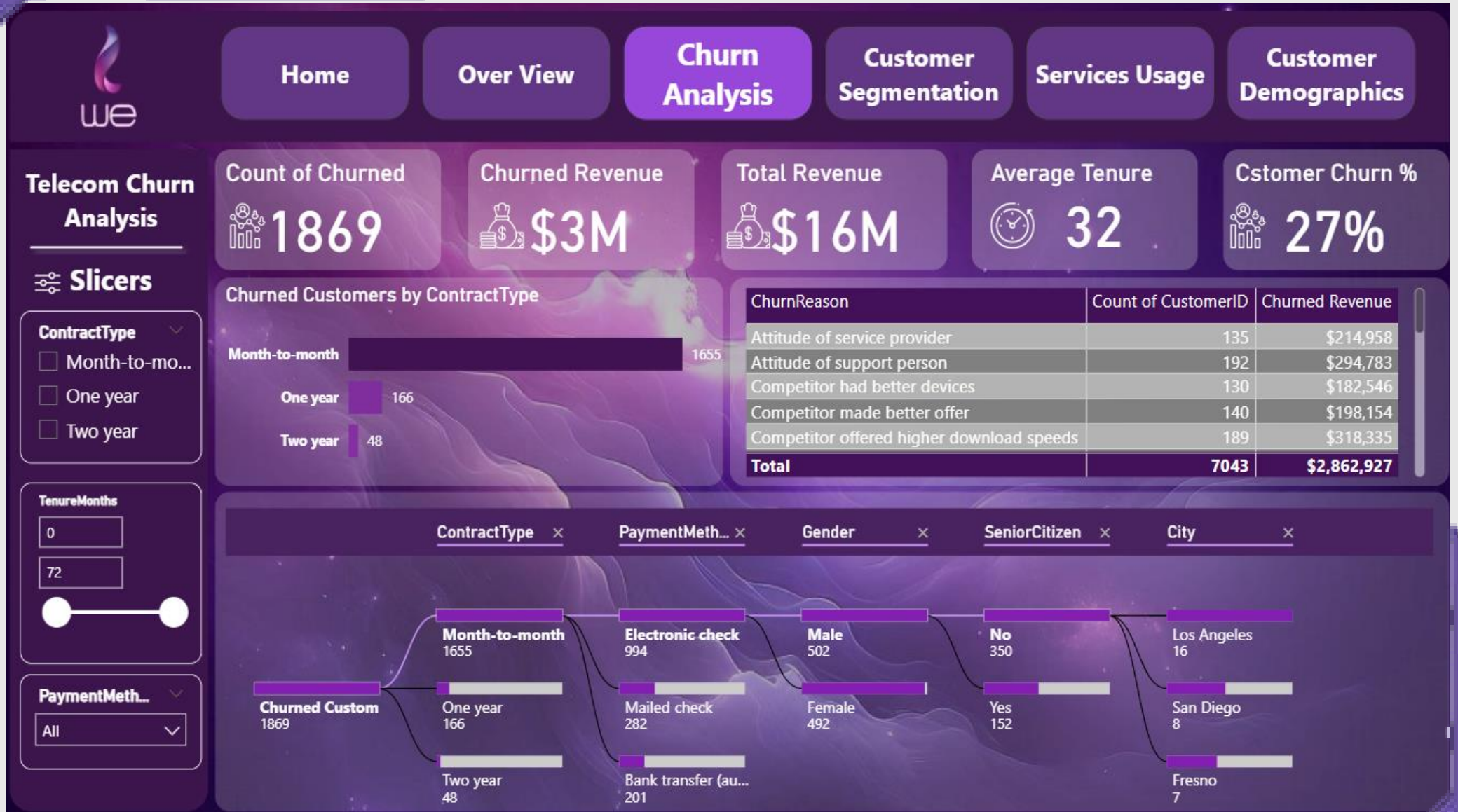
- Top churn cities (Los Angeles, San Diego) reflect regional retention challenges and competitive market pressure.



Recommended

- Introduce loyalty or long-term contract incentives to reduce churn among month-to-month users.
- Focus retention campaigns on early-stage customers and high-churn cities to improve customer lifetime value.

Churn Analysis



Insights



➤ Main churn reasons are poor support attitude, competitors offering better speeds, and negative perception of the service provider.

ChurnReason	Count of CustomerID	Churned Revenue
Attitude of service provider	135	\$214,958
Attitude of support person	192	\$294,783
Competitor had better devices	130	\$182,546
Competitor made better offer	140	\$198,154
Competitor offered higher download speeds	189	\$318,335
Total	7043	\$2,862,927

➤ Average customer tenure is 32 months, meaning customers usually stay for some time before deciding to leave.



Insights

- Many churned customers use electronic check payments, which may reflect lower digital engagement or convenience issues.
- Male customers and non-senior citizens show slightly higher churn tendencies.
- Most churned customers are on month-to-month contracts, short-term contracts make it easier for customers to leave.






Recommended



Improve customer support experience through better training and faster issue resolution, ensure competitive offers to retain customers attracted by faster competitors.



Promote long-term plans by adding benefits or discounts to reduce churn from monthly contracts.



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[Over View](#)
[Churn Analysis](#)
[Customer Segmentation](#)
[Services Usage](#)
[Customer Demographics](#)

Telecom Churn Customer Segmentation

Slicers

Customer Se...

☐ High Value
 ☐ Low Value
 ☐ Mid Value

ContractType

☐ Month-to-mo...
 ☐ One year
 ☐ Two year

Gender

High Customer
12%

Medium Customer
31%

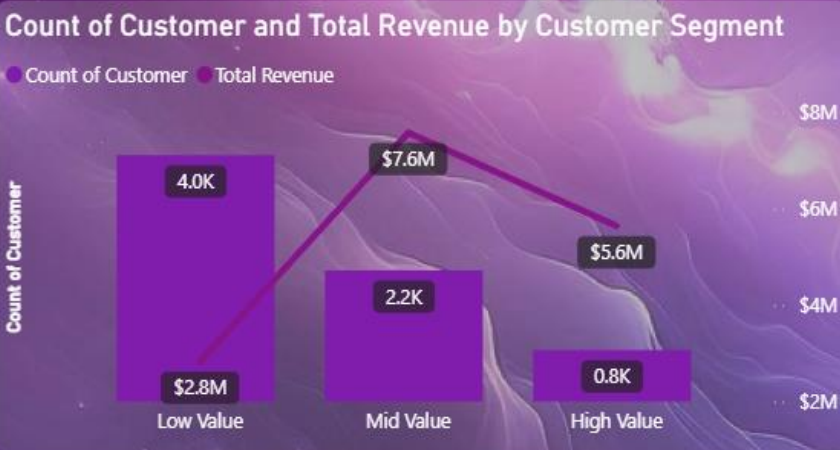
Low Customer
57%

Values

Churn Rate %

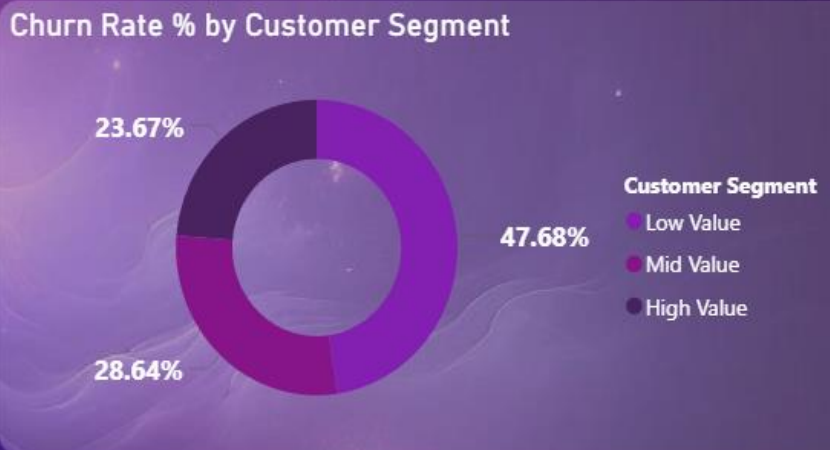
Churned Revenue

Revenue

Count of Customer and Total Revenue by Customer Segment


Count of Customer (Blue bars), Total Revenue (Red line)

Customer Segment	Count of Customer	Total Revenue
Low Value	4.0K	\$2.8M
Mid Value	2.2K	\$7.6M
High Value	0.8K	\$5.6M

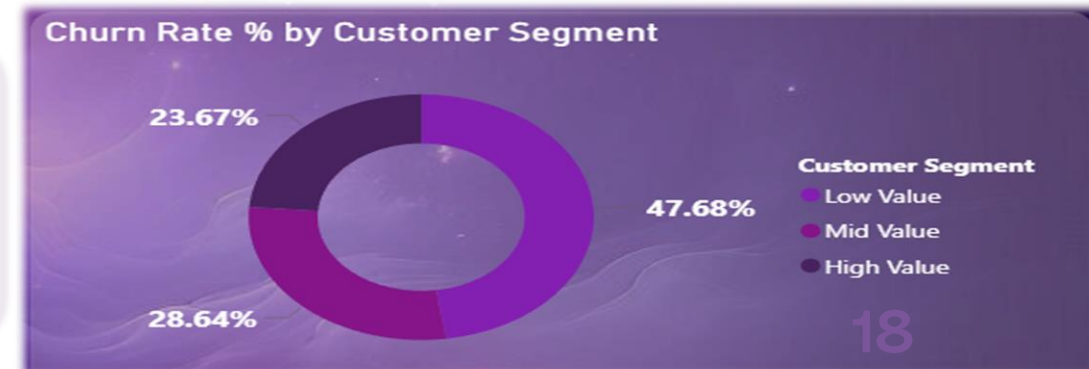
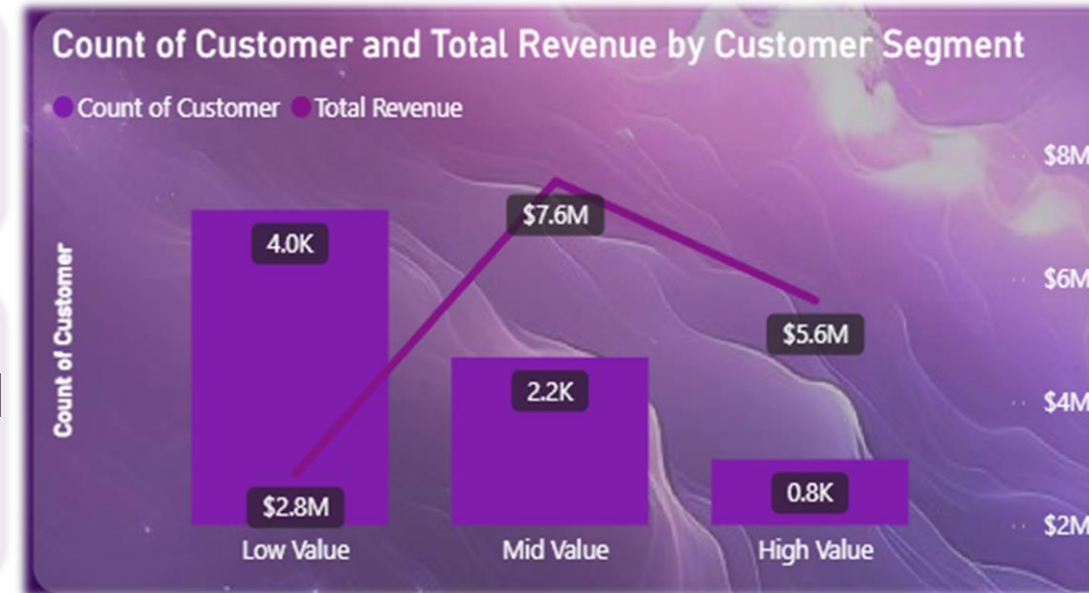
Churn Rate % by Customer Segment


Customer Segment	Churn Rate %
Low Value	23.67%
Mid Value	47.68%
High Value	28.64%


ContractType	Month-to-month		One year		Two year		Total		
	Customer Segment	Count of Customer	Total Revenue	Count of Customer	Total Revenue	Count of Customer	Total Revenue	Count of Customer	Total Revenue
High Value		157	\$947,403	292	\$1,859,841	395	\$2,836,670	844	\$5,643,915
Low Value		2760	\$1,497,056	551	\$471,200	734	\$863,906	4045	\$2,832,162
Mid Value		958	\$2,861,403	630	\$2,136,013	566	\$2,582,677	2154	\$7,580,092
Total		3875	\$5,305,861	1473	\$4,467,054	1695	\$6,283,254	7043	\$16,056,169

Insights

- The Low Value segment forms the majority (57%) but contributes only \$2.8M, showing low profitability.
- Mid and High Value customers together (43%) generate most of the revenue, \$7.6M and \$5.6M respectively, making them the company's most valuable segments.
- Churn Rate is highest among Low Value (47.68%), then Mid Value (28.64%), and lowest for High Value (23.67%), showing that loyalty increases with customer value.



Insights



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- Most churned customers have month-to-month contracts, especially in the Low Value segment (2,760 customers).
- Two-year contracts show the lowest churn and highest revenue, confirming that longer commitments reduce customer loss.
- The total revenue across all segments equals \$16M, consistent with overall churn analysis.



Recommended



Target Low and Mid Value customers with personalized retention programs (discounts, add-ons, loyalty points) to cut high churn.

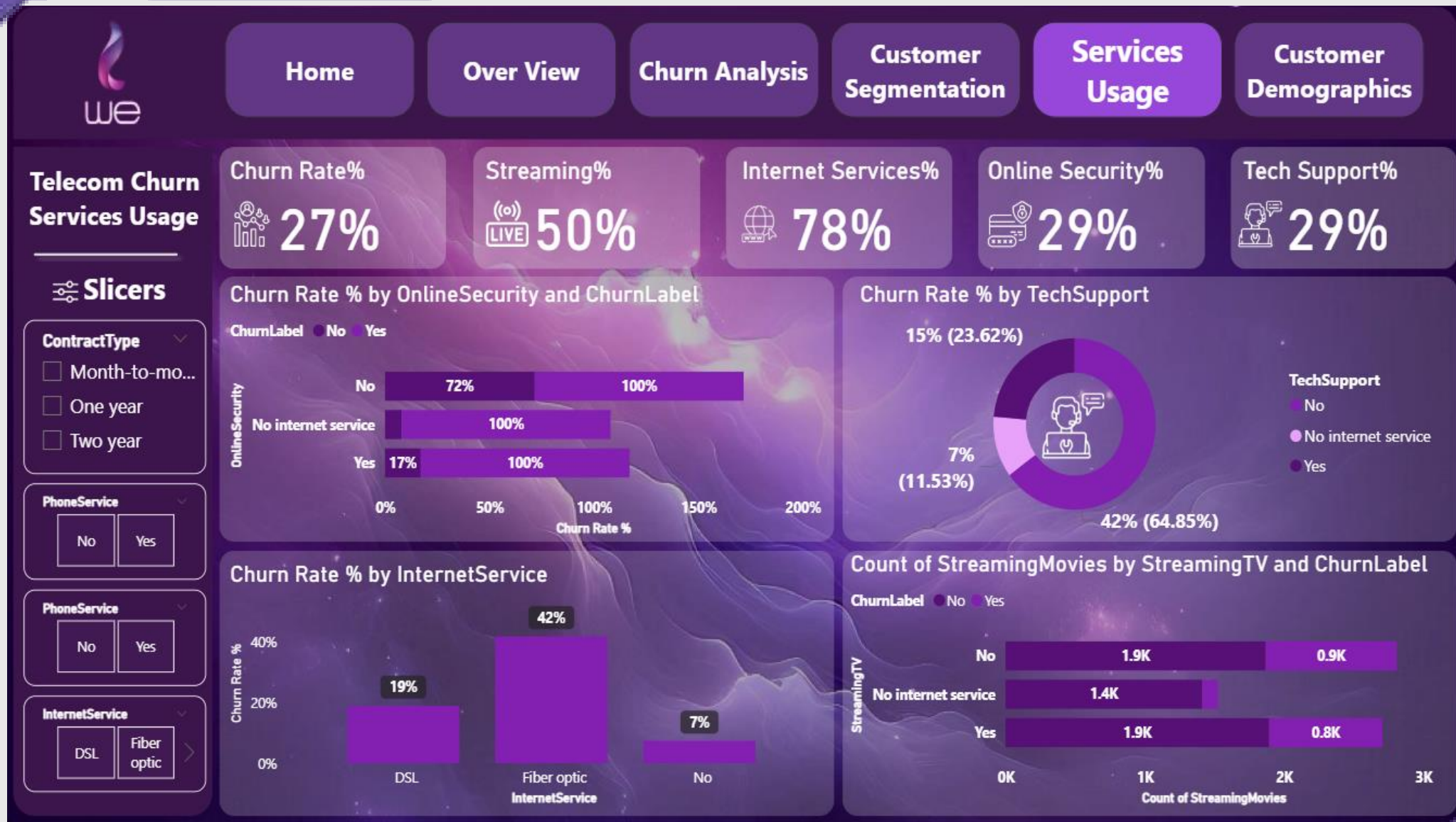


Maintain and reward High Value customers through exclusive offers and premium support.



Encourage long-term contracts via incentives or bundled plans to build stability and lower churn.

Services Usage

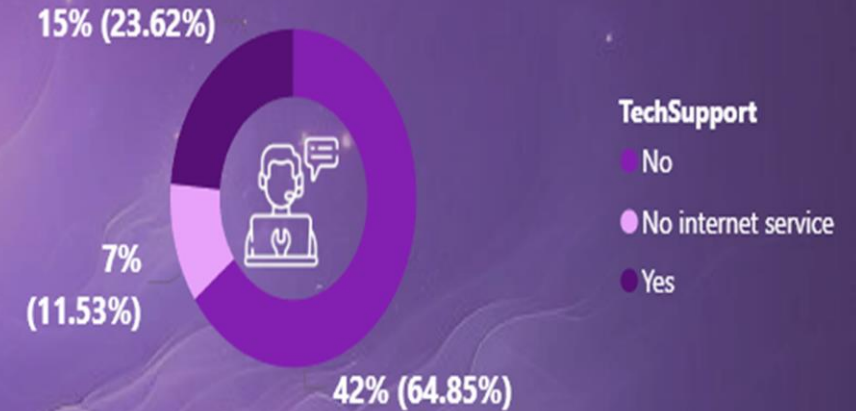


Insights

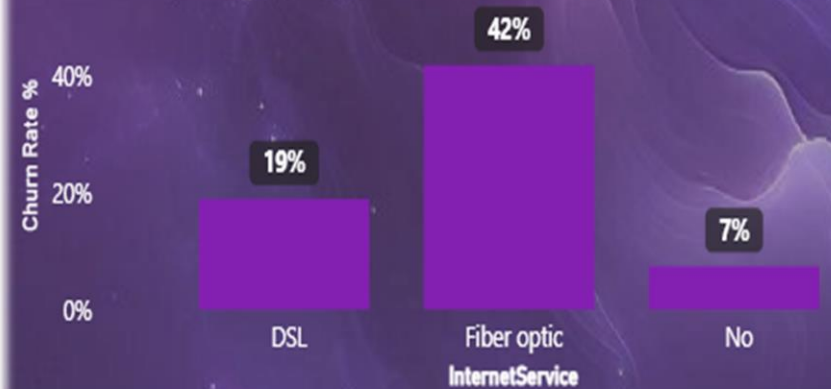
➤ Customers who utilize Tech Support exhibit a high churn rate of 42%, suggesting that interacting with support is a major pre-cursor or consequence of a poor overall experience.

➤ The Fiber Optic internet type has the highest churn rate at a critical 42%, significantly surpassing DSL's 19% churn and pointing to systemic issues with this specific product line.

Churn Rate % by TechSupport



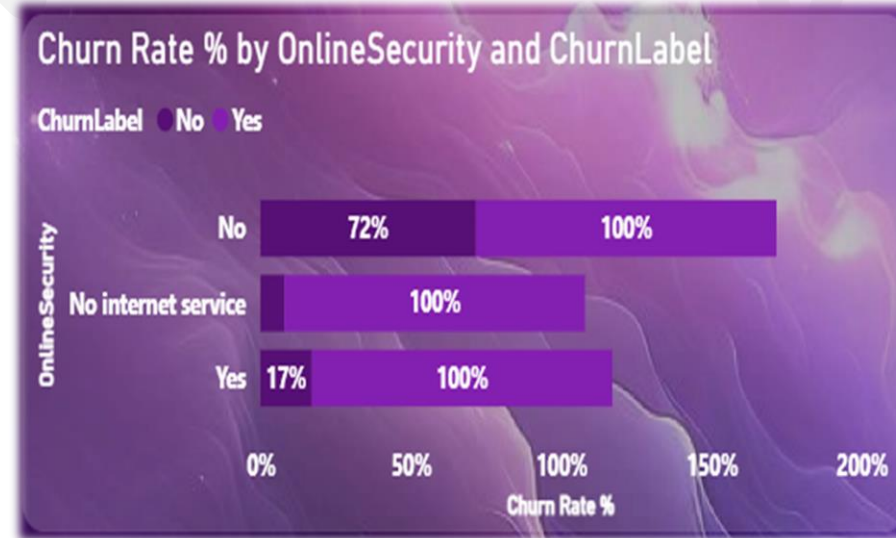
Churn Rate % by InternetService



Insights

➤ This service is the strongest safeguard against churn, drastically reducing the churn rate from 72% (for those without it) down to just 17% for those who subscribe.

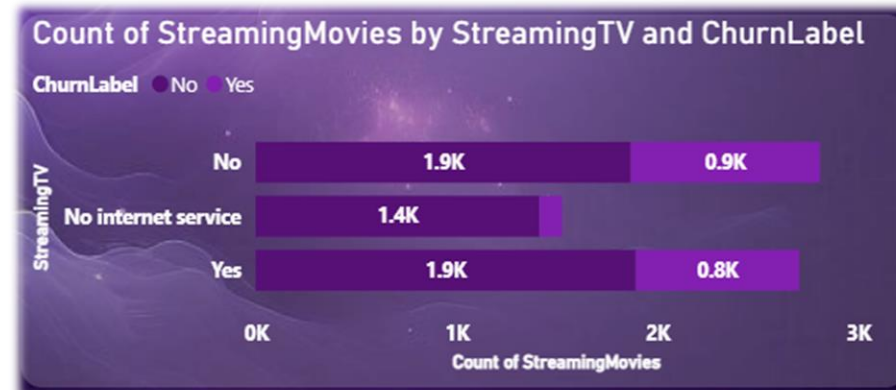
➤ Internet service is the most widely adopted product (78% penetration), while the volume of Streaming Movies Watched is not a differentiator between churned and non-churned customers.



Internet Services%



78%





Recommended



Mandate Online Security: Immediately bundle Online Security with Fiber Optic to stabilize the highest-risk revenue base.

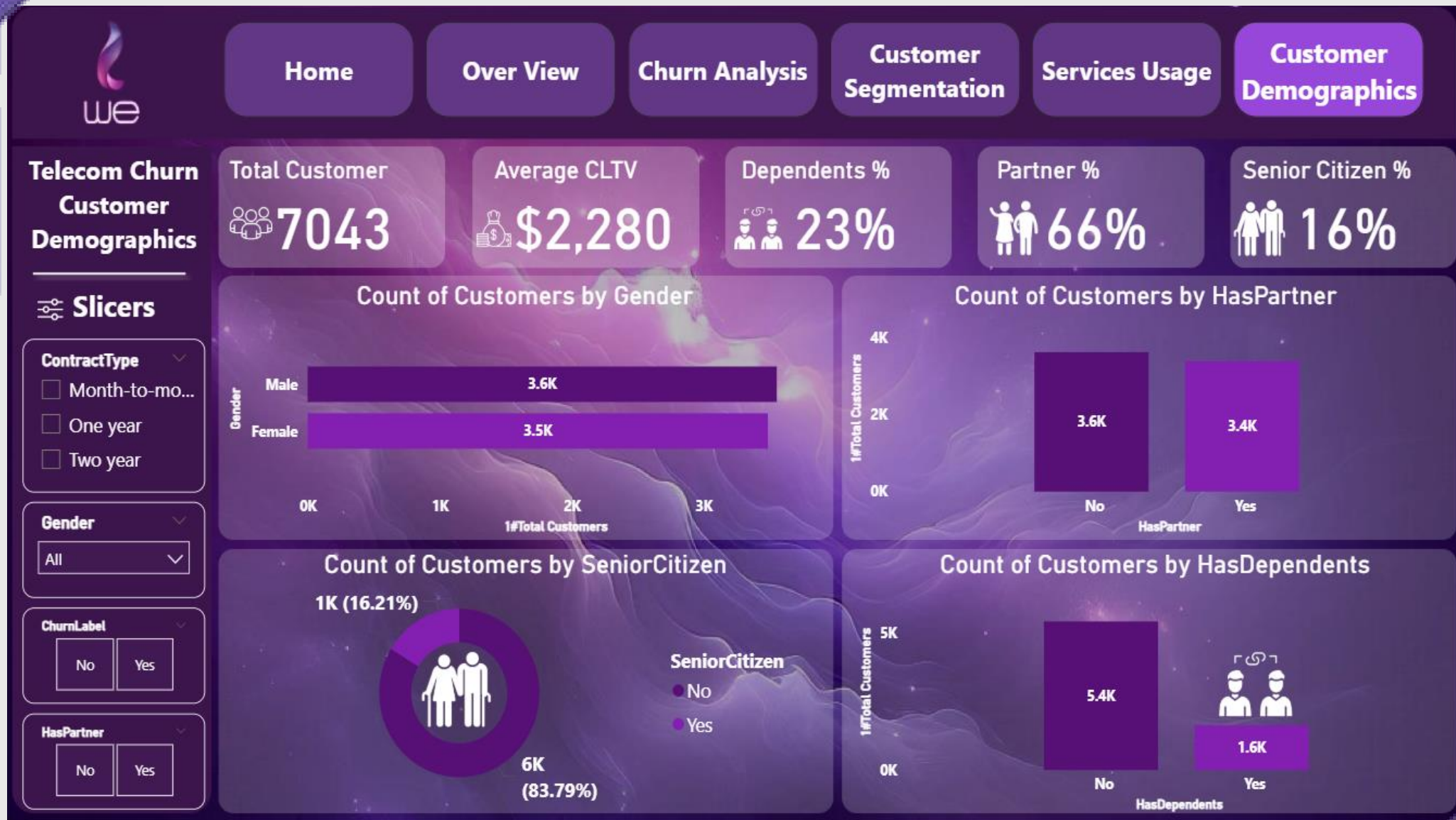


Fix Fiber Quality: Launch an urgent task force to resolve systemic issues in the Fiber Optic network causing 42% churn.



Redesign Tech Support: Overhaul the support process to improve First-Contact Resolution (FCR), turning the channel into a service stabilizer.

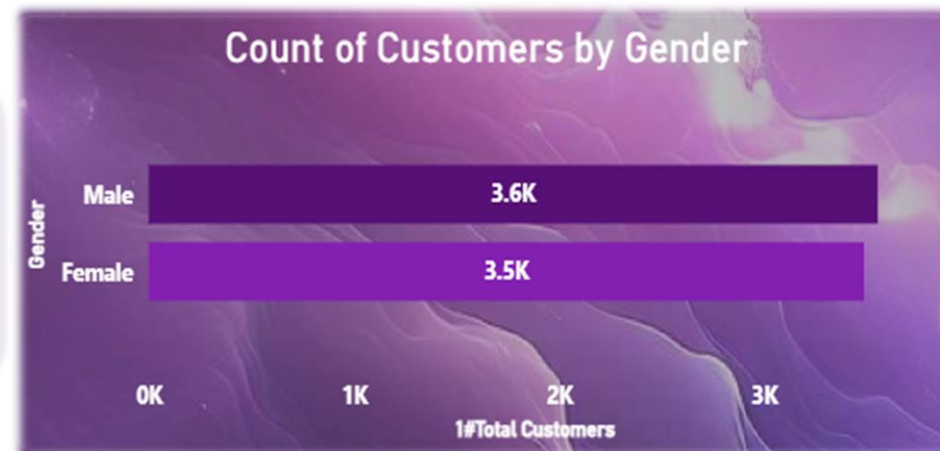
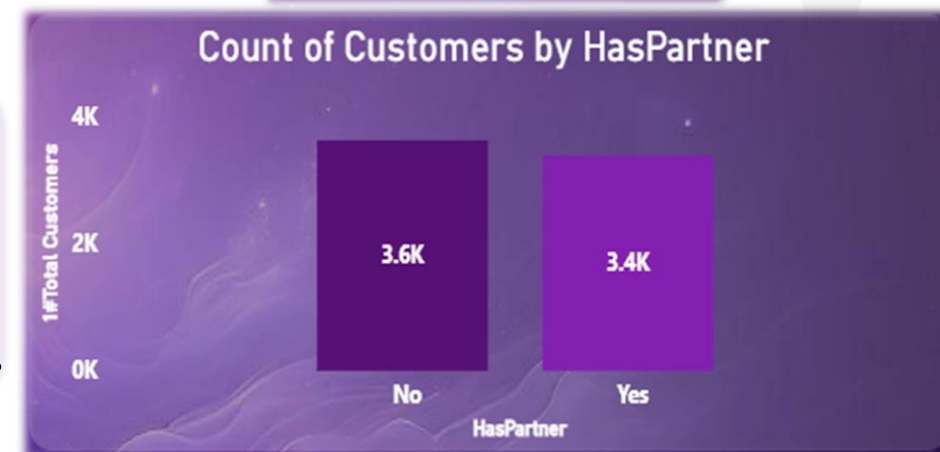
Customer Demographics



Insights

➤ 34% of customers do not have a Partner; this large single-customer segment represents the most volatile group in terms of churn risk, despite being smaller than the Partner segment.

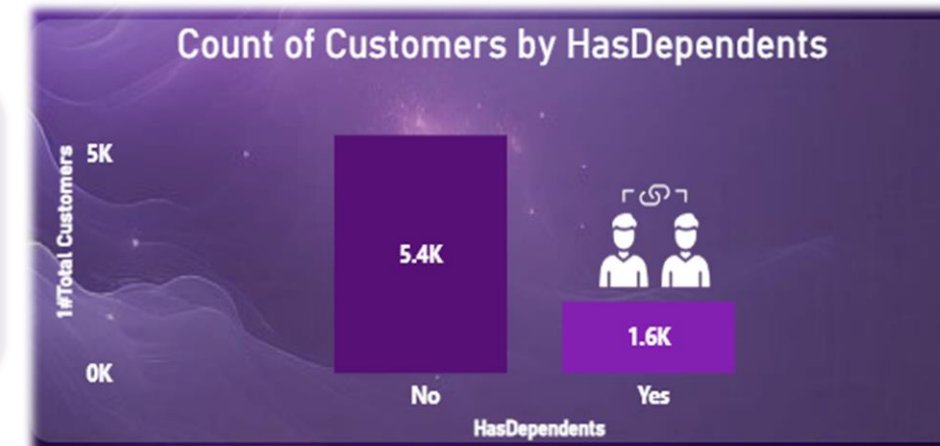
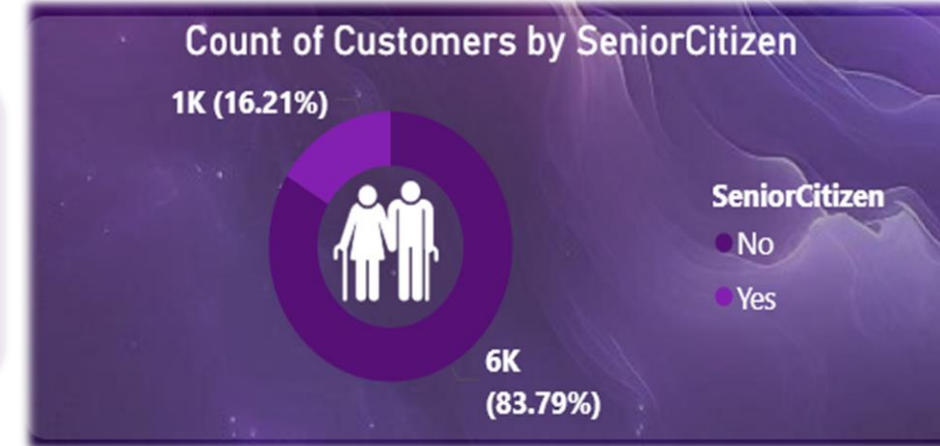
➤ Gender is the least relevant demographic factor for churn, as the customer count for Male (3.6K) is almost identical to Female (3.5K), showing no correlation with overall churn behavior.



Insights

➤ The Senior Citizen segment (16.21%) is the second smallest group; while they are stable, they likely have the lowest revenue impact due to low Average CLTV and volume.

➤ The group with Dependents (1.6K) is the smallest segment, this group is generally stable, its size means its low churn rate has a minimal positive impact on the overall retention rate.





Recommended



Launch short-term digital "Engagement & Value" plans focused on the young, non-partnered segment to directly mitigate their high churn risk.



Introduce bundled, premium Partner/Family packages to increase the low Average CLTV of loyal, stable multi-person households.



Move stable, low-value Senior Citizens to low-cost self-service support options to maintain loyalty and reduce service operational costs.

Link



 [Telecom churn analysis](#)

