

# Telecom Customer Churn Analysis

Introduction	Higher churn rate across locations	Customer Demographics	High value customers	Customer LTV vs Churn	Contract and payment patterns	Internet service patt..
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## Telecom Customer Churn Analysis

A California-based Telecommunications company provides home phone and internet services to customers across California. A new competitor has moved into the area, which may have caused customers to leave the company.

The company currently faces 27% churn rate!



Goal: Help the company improve retention by identifying high value customers and churn risks and present your findings to the CMO

### Customer Churn and Customer lifetime value (CLV)

Customer churn can be defined formally as the percentage of customers who have discontinued their subscription to a service in a given period of time.

Churn rate = (Number of customers lost) / (Total customers started with)

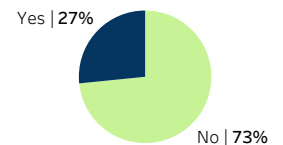
Why is customer churn important?

- It is less expensive to retain customers than to attract new customers.
- Customer churn helps competitors
- Existing customers when satisfied, are an excellent source for brand promotions.
- Higher churn rate is an indicator of a bigger company problem.

Customer lifetime value (CLV) is the net profit associated with a customer for a company over a fixed period of time. A customer with a high CLV is an indicator of recurring revenue, and companies are willing to take measures to retain such customers for as long as possible.

Why is Customer lifetime value important?

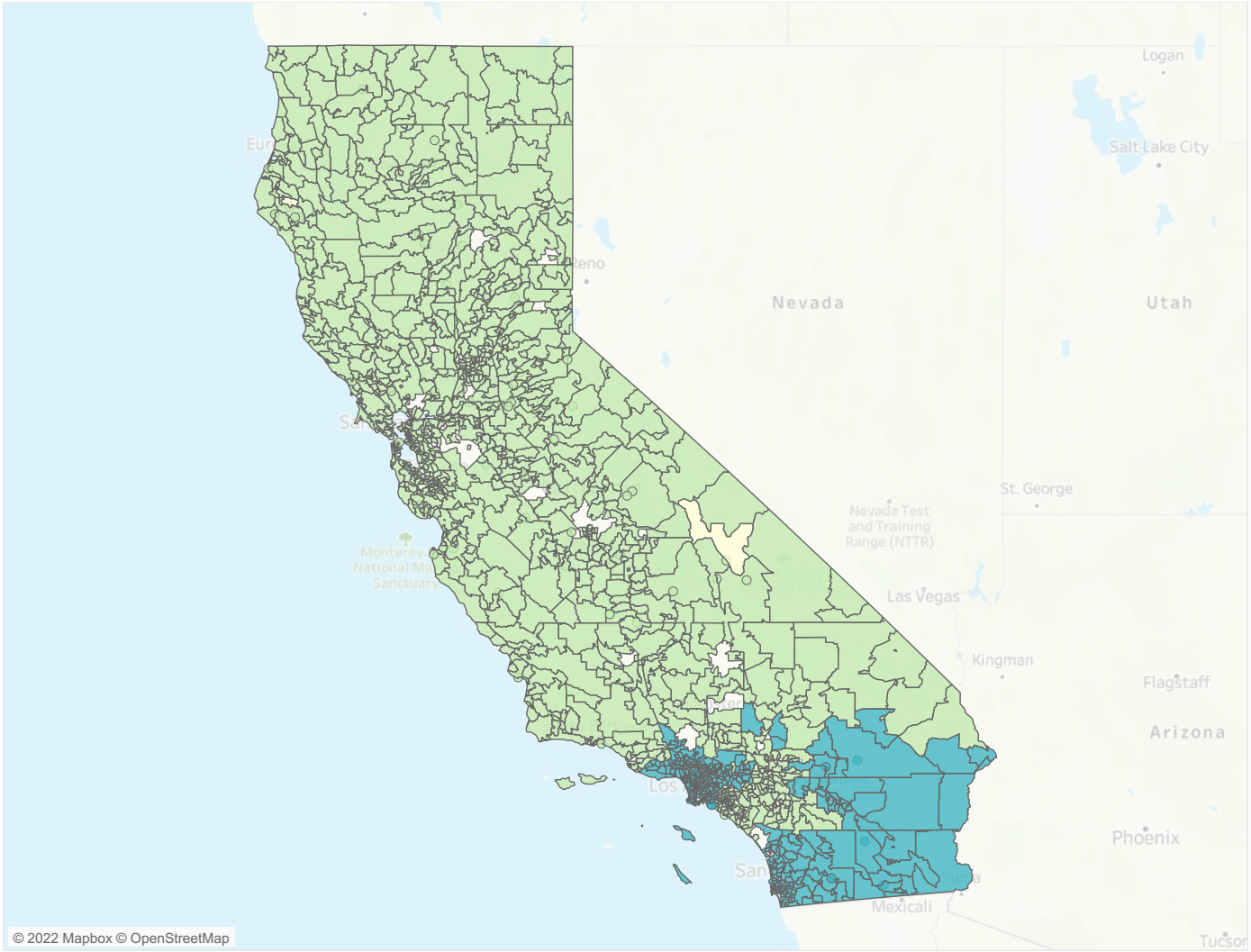
- Higher ROI
- Higher Customer lifetime value, less likely to churn
- Custom-made customer programs to improve memberships



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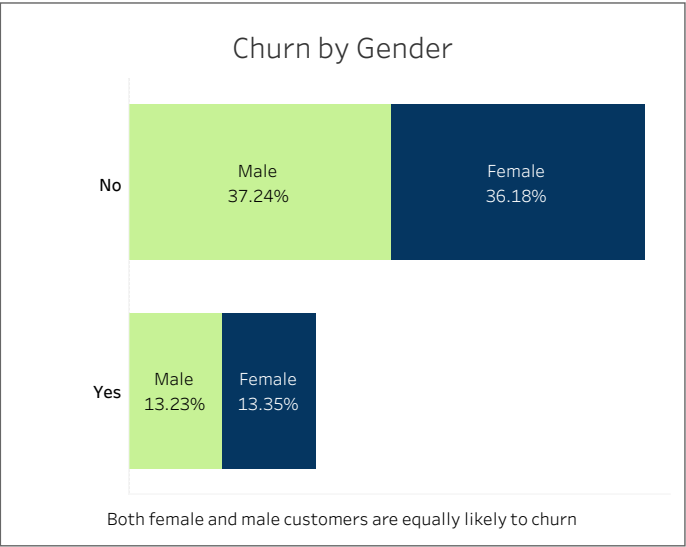
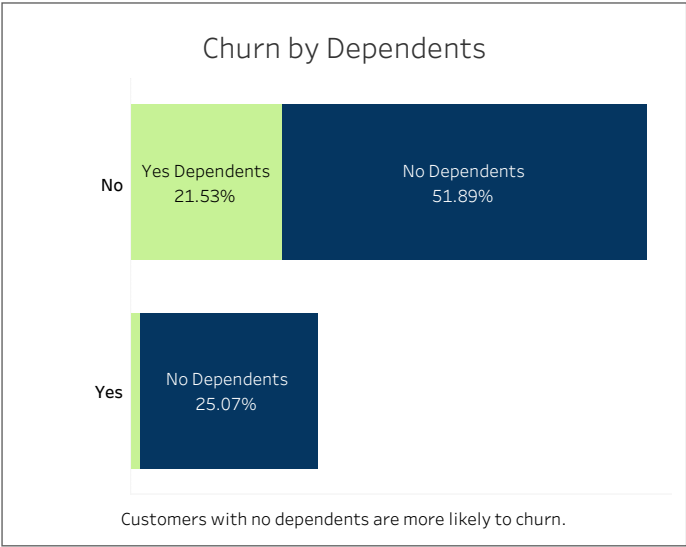
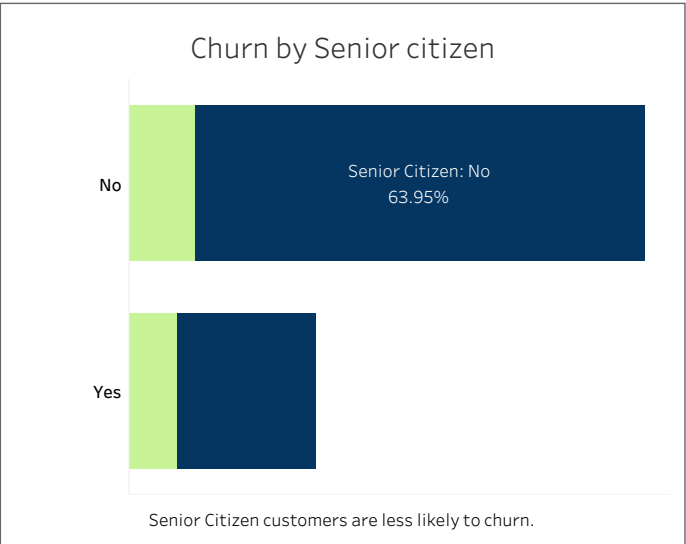
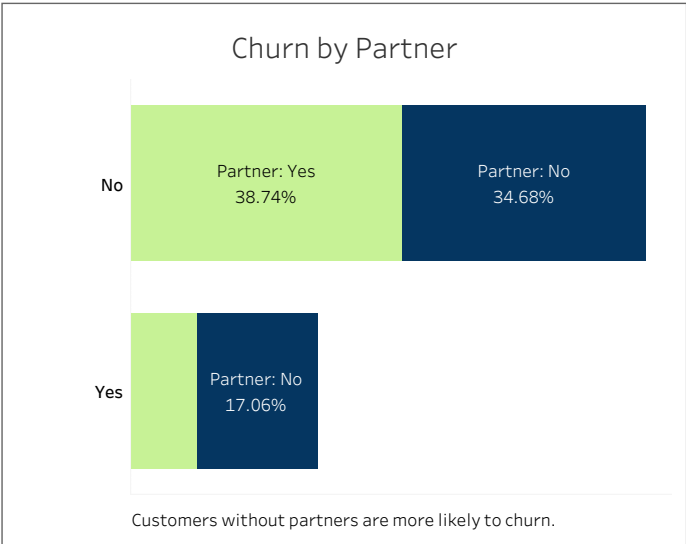
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Higher churn rate is observed in the southern parts of California



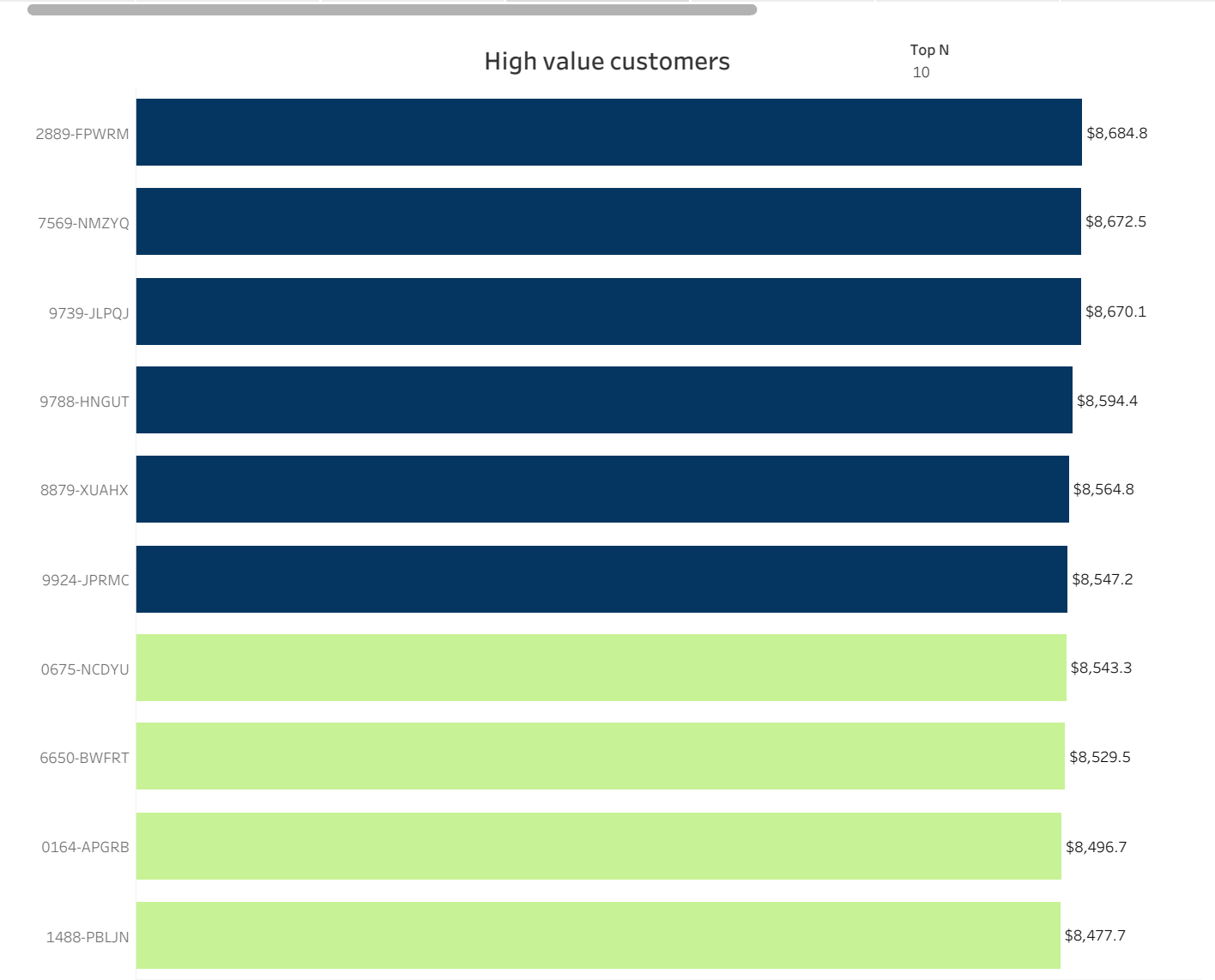
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Higher churn rate across locations	Customer Demographics	High value customers	Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern
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## Life time value of Customers

\*LTV is calculated based on Total Charges

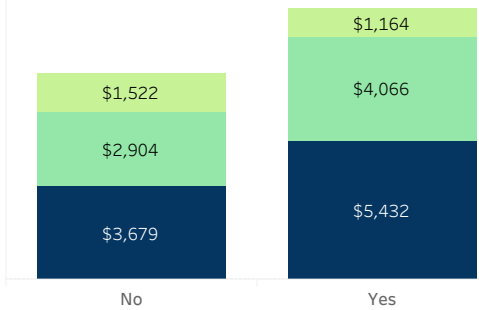
### Contract

Month-to-mo.. One year Two year

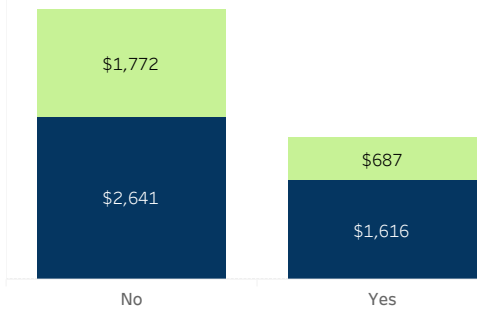
### Phone Service

No Yes

Churn vs LTV by Contract



Churn vs LTV by Phone Service



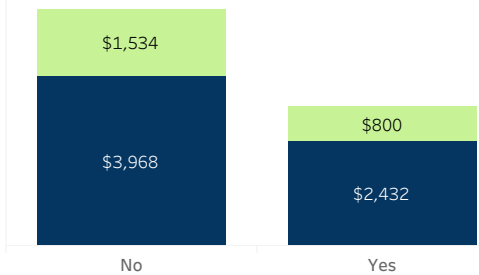
### Multiple Lines

No Yes

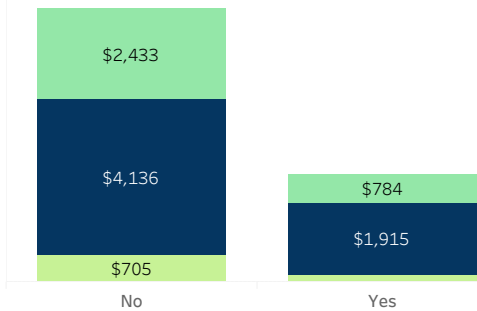
### Internet Service

DSL Fiber optic No

Churn vs LTV by Phone Service with Multiple lines



Churn vs LTV by Internet Service



- Customers who have a 2-year contract have much higher LTVs than those on a month-to-month contract.

- Customers with a 1- or 2-year contract contribute more to the LTV.

-Customers using the phone service, multiple lines, and internet services in general have higher LTVs and, thus, make greater contributions to the business of the company.

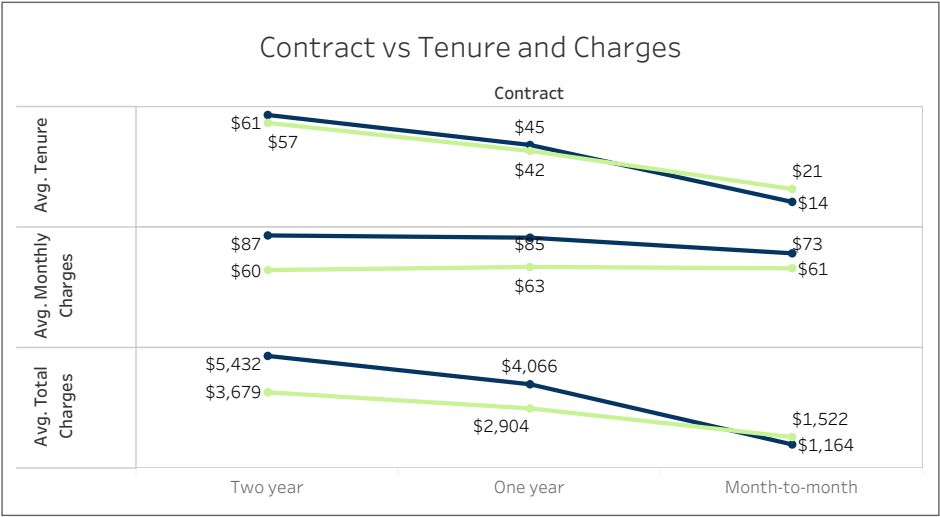
- Customers who churned and had the phone service were paying more money in total as compared with those who did not pay for the phone service. A similar pattern is seen with Multiple line service.

- Customers using fiber optic internet connection pay the highest total charges.

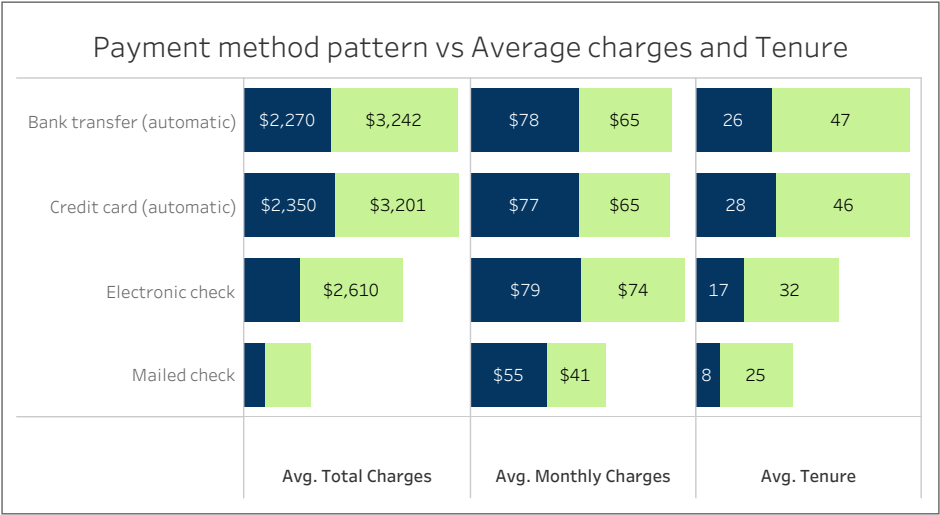
# Telecom Customer Churn Analysis

Customer Demographics	High value customers	Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern
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Churn      No      Yes



- The total charges are significantly higher for customers who are on a 2-year contract than those who are on a month-to-month contract.
- Customers who stayed with the company had mostly subscribed to the 2-year contract as compared with customers who had left.
- Customers who left the company were paying significantly higher monthly charges than those who did not leave.
- Customers with the highest LTVs are the ones that are using bank and credit card transfers (automatic transfers) for making their payments.



- Customers who used automatic payment methods showed a tendency to be with the company longer as compared with those who used non-automatic payment methods.
- Customers are more likely to not churn if they use non-automatic payment methods, such as mailed cheques and electronic cheques; however, this does not contribute much to LTV.

# Telecom Customer Churn Analysis

High value customers	Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern	Streaming movies and TV service patt..
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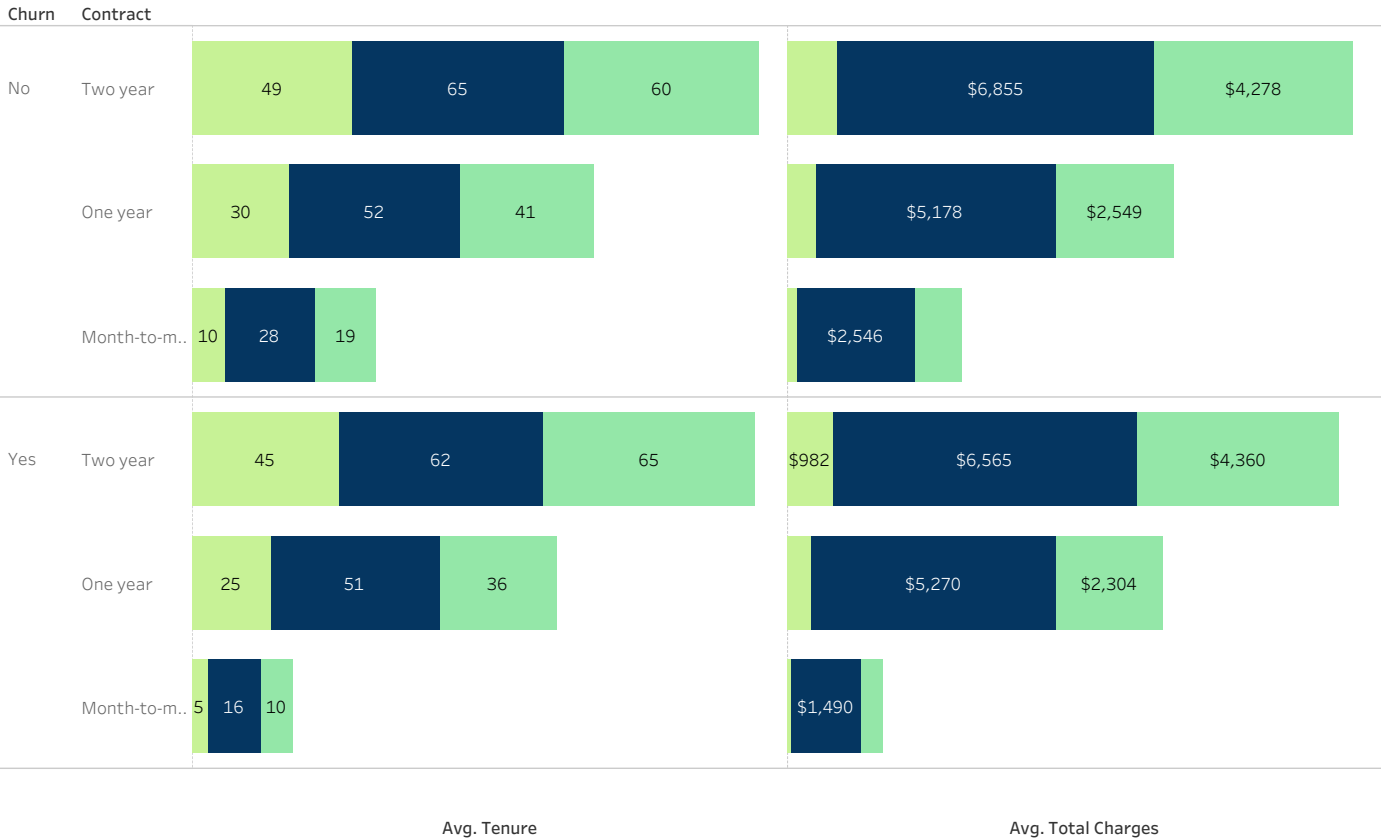
## Average numerics of Contract, Tenure and Charges of Internet Service

Internet Service

No DSL

Fiber optic

Customers on 2-year contracts and in the fiber optic domain pay the highest total charges.



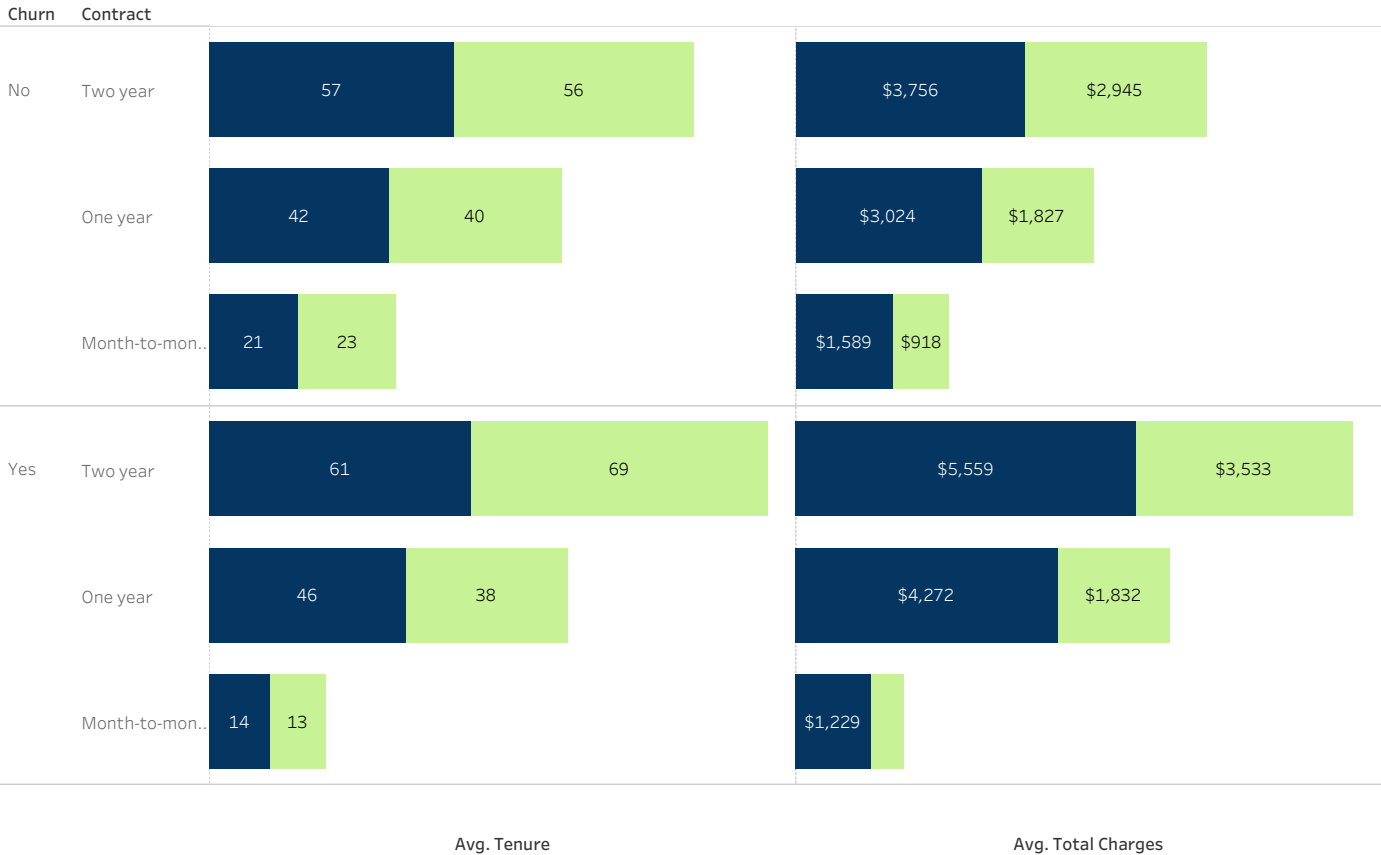
# Telecom Customer Churn Analysis

Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern	Streaming movies and TV service pattern	Summary
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## Average numerics of Contract, Tenure and Charges of Phone Service

Phone Service  
■ Yes    ■ No

Customers who are paying more money and using the phone service are more likely to leave the company.





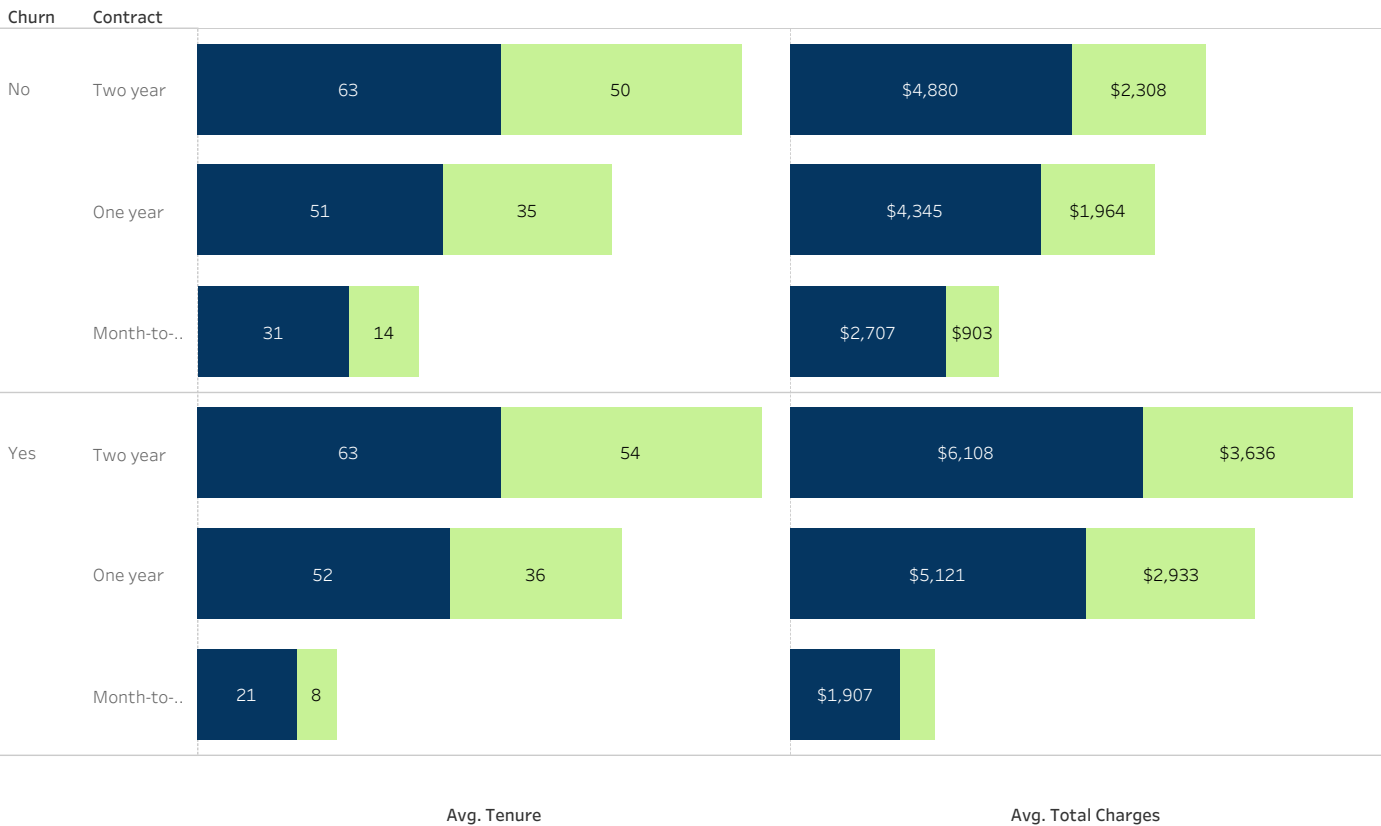
# Telecom Customer Churn Analysis

Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern	Streaming movies and TV service pattern	Summary
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## Average numerics of Contract, Tenure and Charges of Multiple Lines Phone Service

Multiple Lines  
■ Yes    ■ No

Customers who had left the company were paying a lot of money for the phone service and multiple lines as compared with those who were still with the company.  
Customers who have a 2-year contract have much higher LTVs than those on a month-to-month contract.



# Telecom Customer Churn Analysis

Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern	Streaming movies and TV service pattern	Summary
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## Average numerics of Contract, Tenure and Charges of Streaming TV and Streaming Movies Services

Streaming .. ■ Yes ■ No

Customers subscribed to the streaming services are contributing more to LTV; this means we want to encourage people to use these services.

Churn	Contract				
No	Two year	64	57	\$5,817	\$4,010
	One year	48	43	\$4,390	\$2,943
	Month-to-..	29	20	\$2,604	\$1,404
Yes	Two year	64	57	\$6,324	\$4,026
	One year	47	44	\$4,586	\$3,203
	Month-to-..	20	11	\$1,851	\$780
		Avg. Tenure		Avg. Total Charges	

Churn	Contract				
No	Two year	63	58	\$5,757.64	\$4,076.45
	One year	48	43	\$4,380.57	\$2,944.96
	Month-to-..	30	20	\$2,657.00	
Yes	Two year	65	58	\$6,349.80	\$4,438.74
	One year	48	37	\$4,652.92	\$2,573.26
	Month-to-..	20	11	\$1,818.41	
		Avg. Tenure		Avg. Total Charges	

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Customer LTV vs Churn	Contract and payment patterns	Internet service patterns	Phone service pattern	Multiple Lines service pattern	Streaming movies and TV service pattern	Summary
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## Summary



### Customer Demographics

- Customers without partners are more likely to churn.
- Senior Citizen customers are less likely to churn.
- Customers with no dependents are more likely to churn.

### Life Time Value of Customers

- Customers with a 1- or 2-year contract contribute more to the LTV.
- Customers using the phone service, multiple lines, and internet services in general have higher LTVs and, thus, make greater contributions to the business of the company.

### Payment Method and Contract Patterns

- We should encourage customers to make more automatic payments because such customers generally have higher LTVs and stay with us longer.
- We have to encourage customers to use 2-year contracts, internet services, phone services and multiple lines.
- Having a 2-year contract is the best for having a high LTV and also for retaining the customers for as long as possible.
- Customers with a month-to-month contract do not contribute much to LTV and are also more likely to churn.

### Services analysis by Churn and Contract

- Customers leaving the company have paid more money in general when they have a 2-year contract.
- Customers who have a month-to-month contract are most likely to churn.
- Customers who have used phone services and multiple lines tend to pay more in general, but we saw that these customers tend to leave the company if they have to pay higher monthly charges.
- Customers subscribed to streaming movies and streaming TV were contributing more to revenue (high LTVs).
- Many customers subscribed to these services left the company as they had to pay higher monthly charges. So, customers are more likely to leave the company if we try to increase the LTV by increasing the monthly charges. Hence, the company can decide to check the effect that increasing LTV has on churn and then take a decision.