

Case Study: Analyzing Customer Churn in Power BI

This project analyzes customer churn data to discover why customers are churning

Definition

The churn rate, also known as the rate of attrition or customer churn, is the rate at which customers stop doing business with an entity. As a result, the revenue of the company will not increase if existing customers are leaving the company and getting new customers is more expensive and hard than keep current customers, so reducing churn is a priority for many companies.

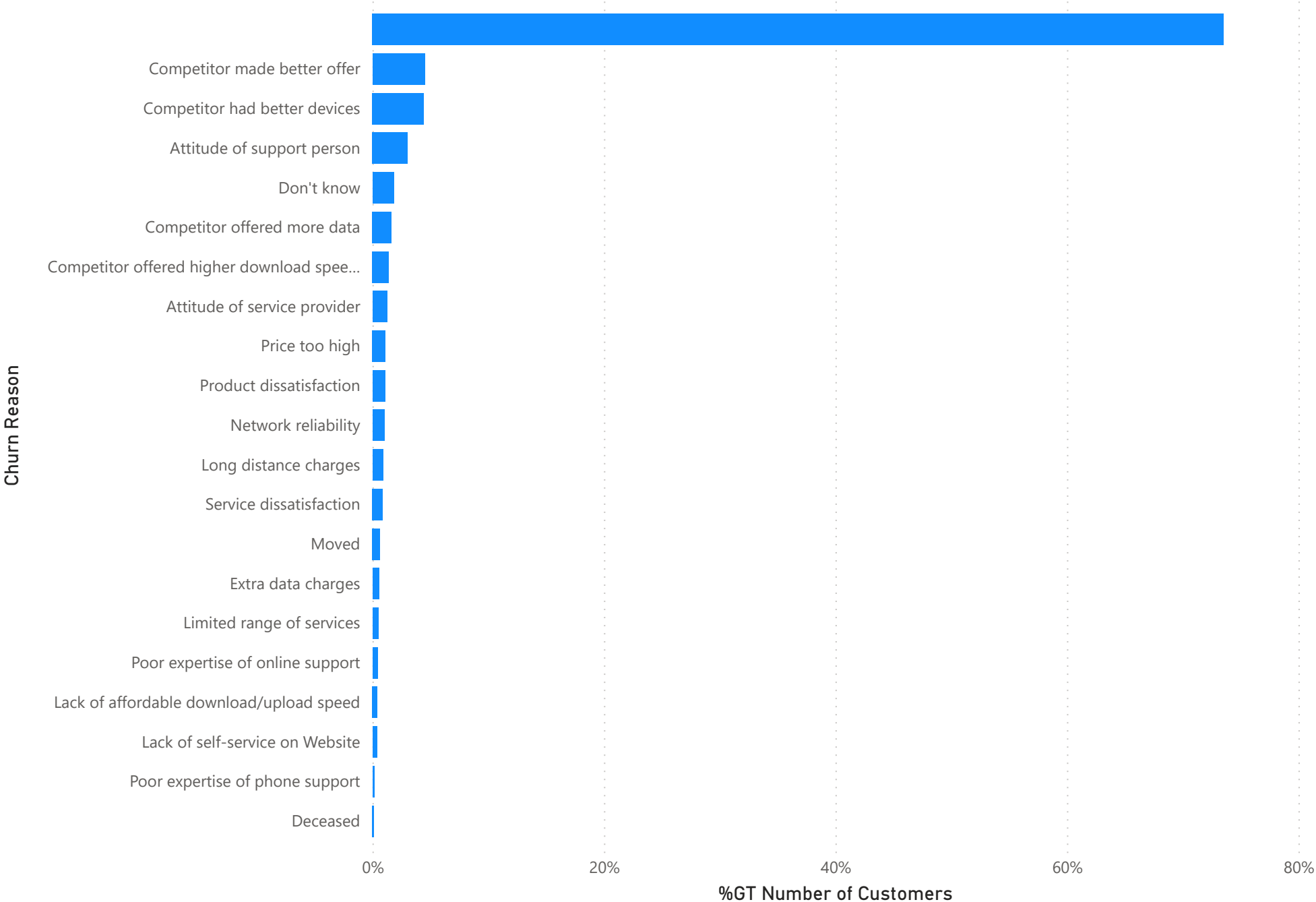
One way to calculate churn can be defined by the formula:

Churn rate = customers lost / total number of customers

Understanding churn help companies to:

- Measure competitiveness.
- Provides clarity of the type of customer that is leaving.

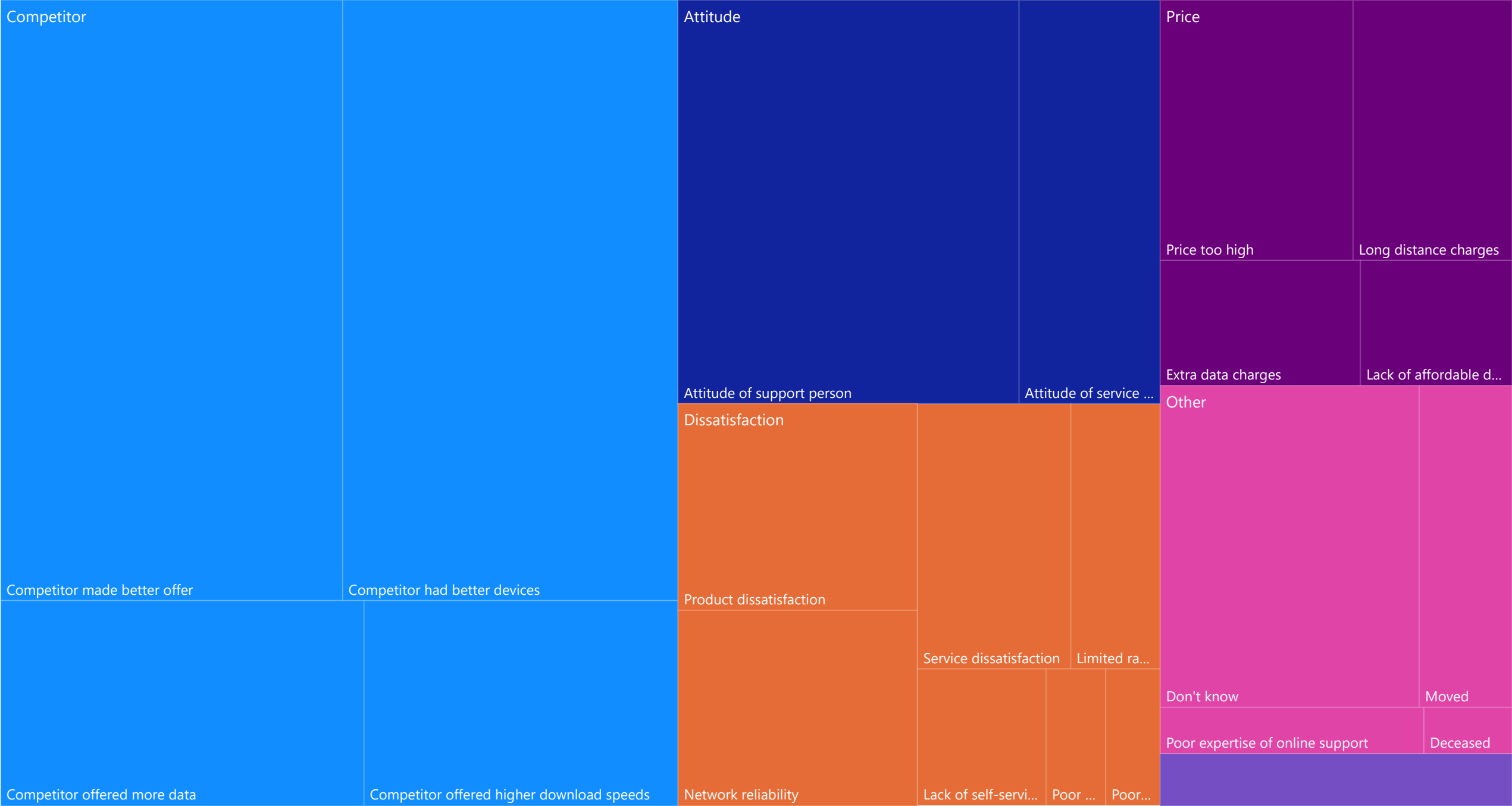
Number of Customers by Churn Reason



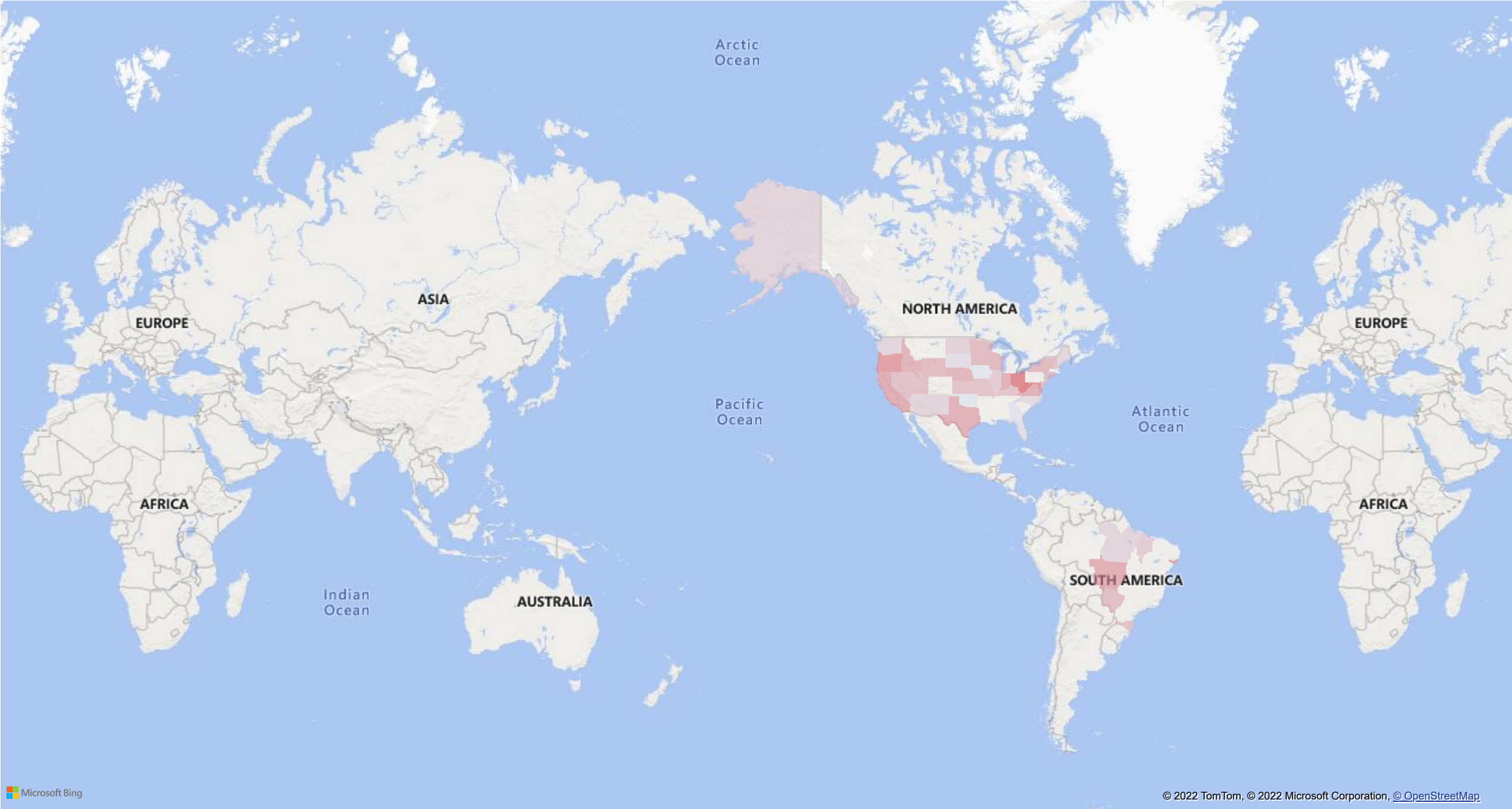
1796

Number of Churned Customers

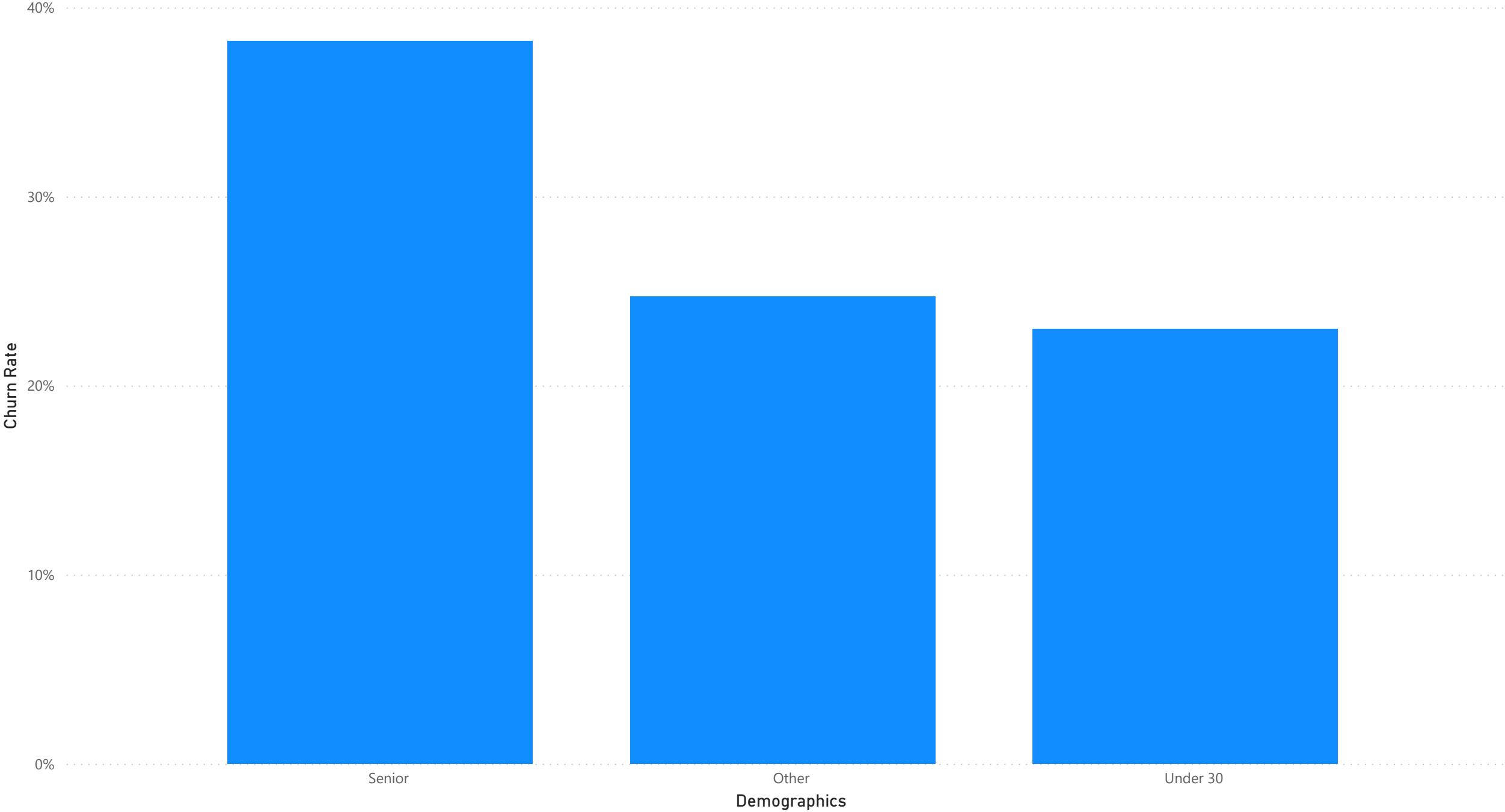
%GT Count of Churn Label by Churn Category and Churn Reason



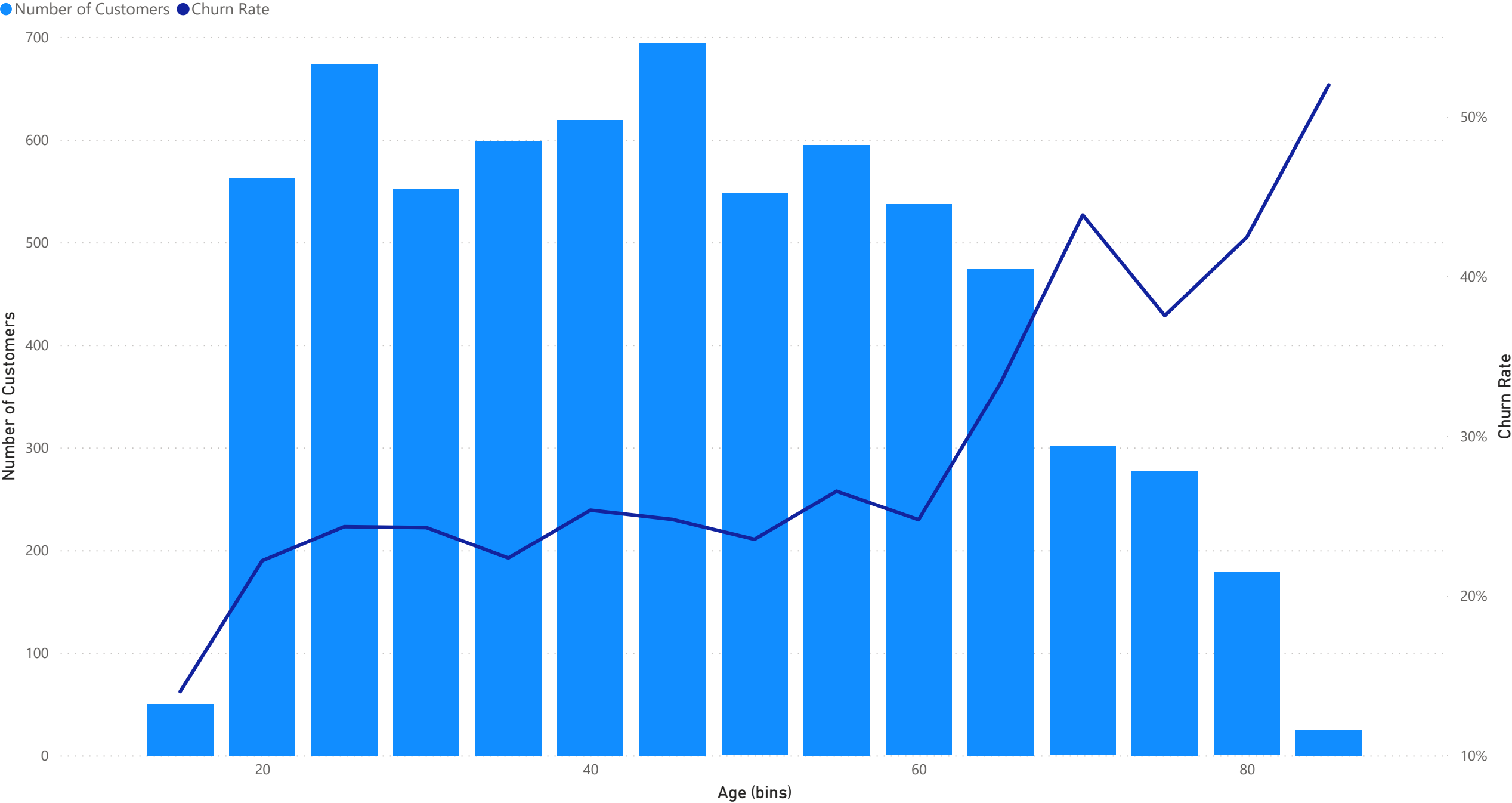
Churn Rate, Number of Customers and Number of Churned Customers by State



Churn Rate by Demographics

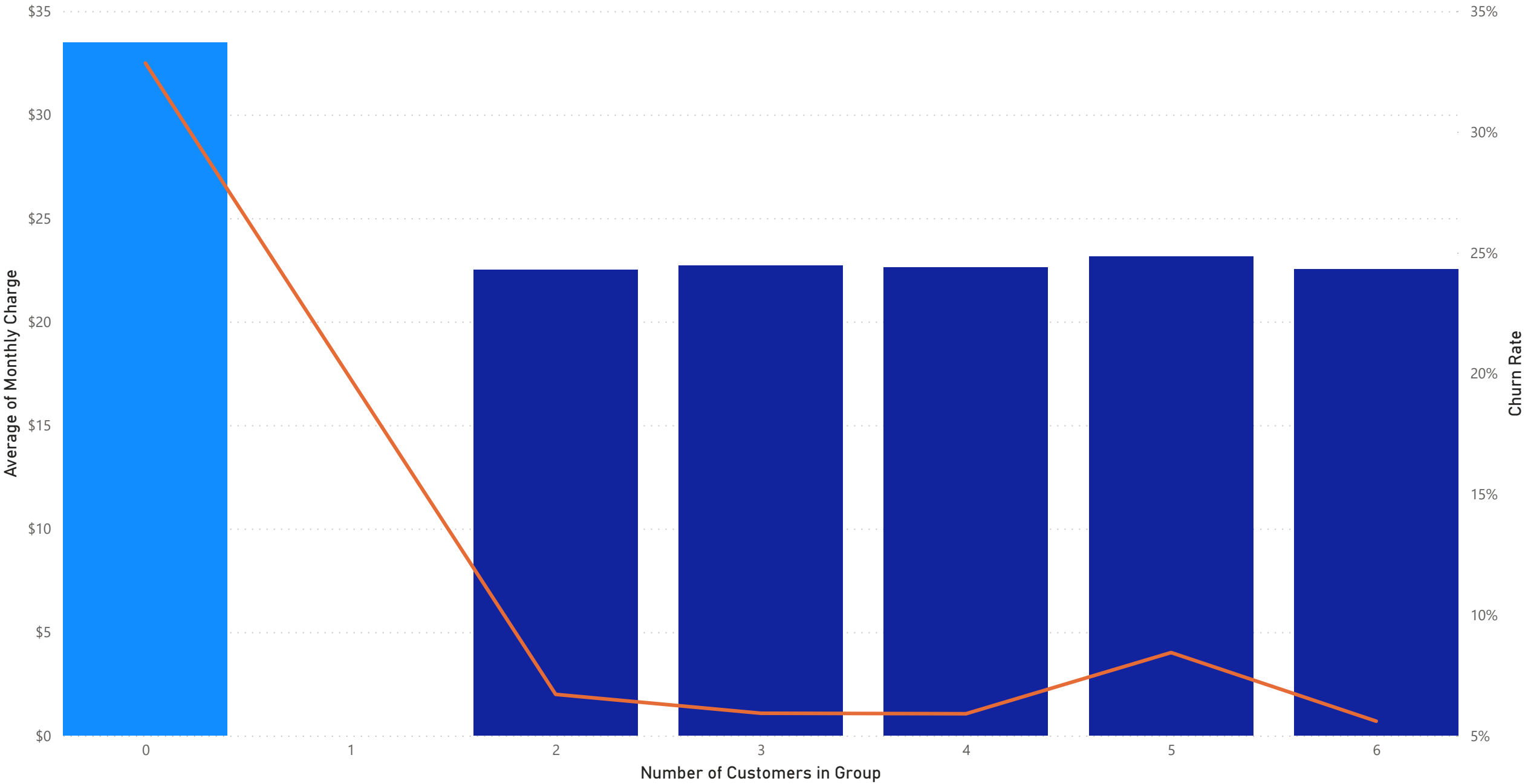


Number of Customers and Churn Rate by Age (bins)



Average of Monthly Charge and Churn Rate by Number of Customers in Group and Group

Group No Yes Churn Rate



Monthly

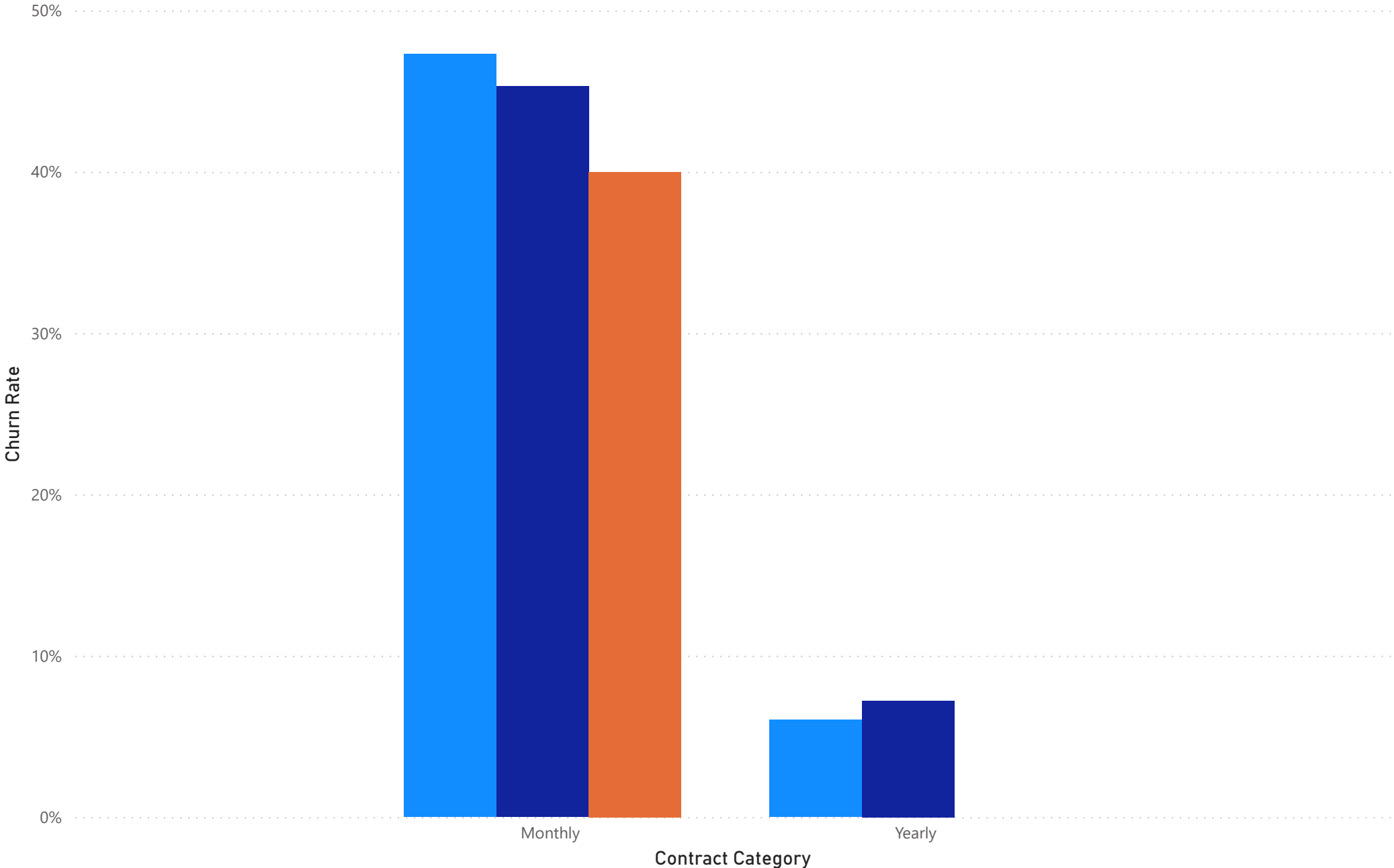
46.29%
Churn Rate

Yearly

6.62%
Churn Rate

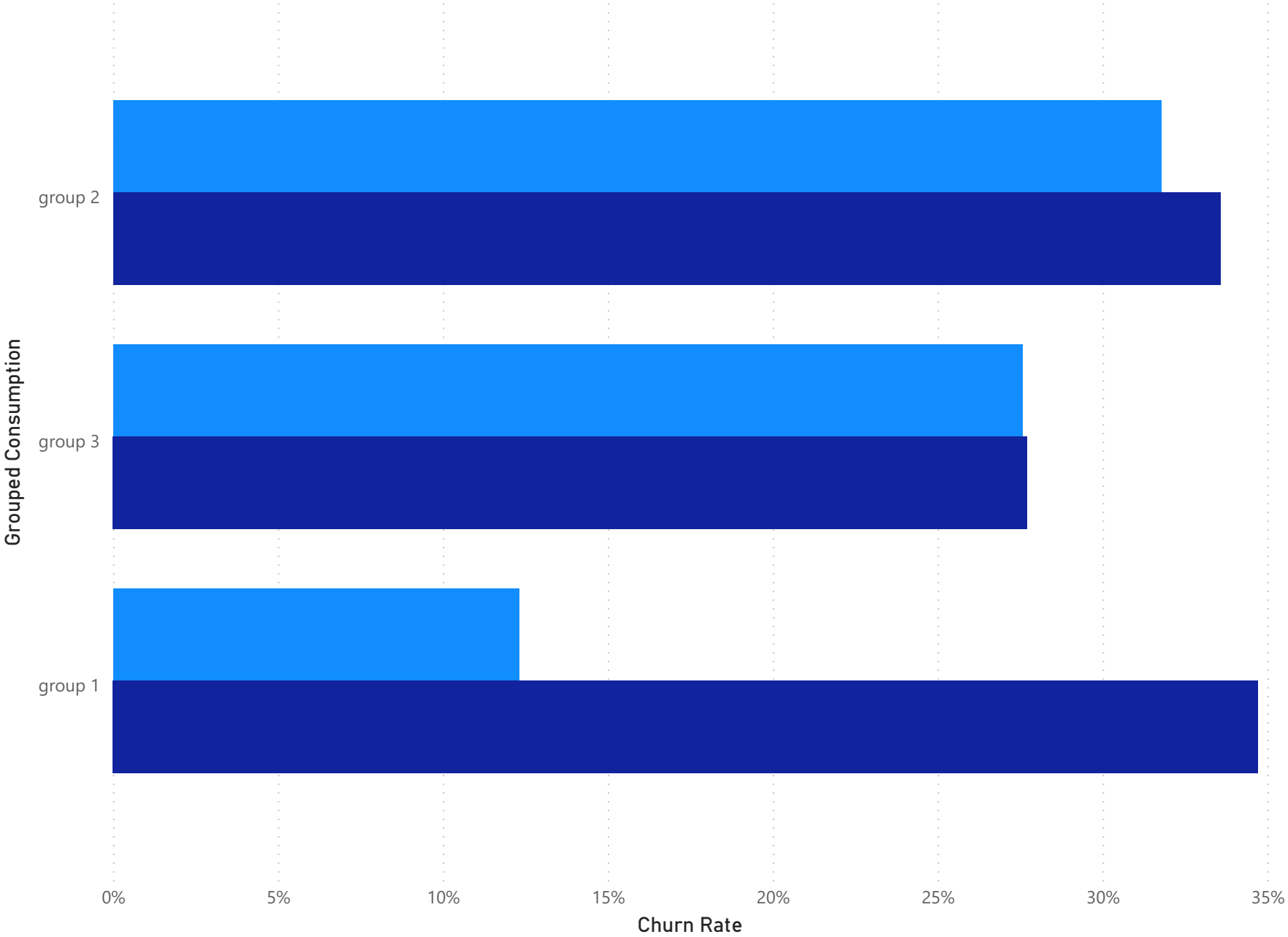
Churn Rate by Contract Category and Gender

Gender ● Female ● Male ● Prefer not to say



Churn Rate by Grouped Consumption and Unlimited Data Plan

Unlimited Data Plan ● No ● Yes



Number of Customers	Unlimited Data Plan	%GT Churn Rate
2193	No	59.93%
4494	Yes	119.55%
6687		100.00%

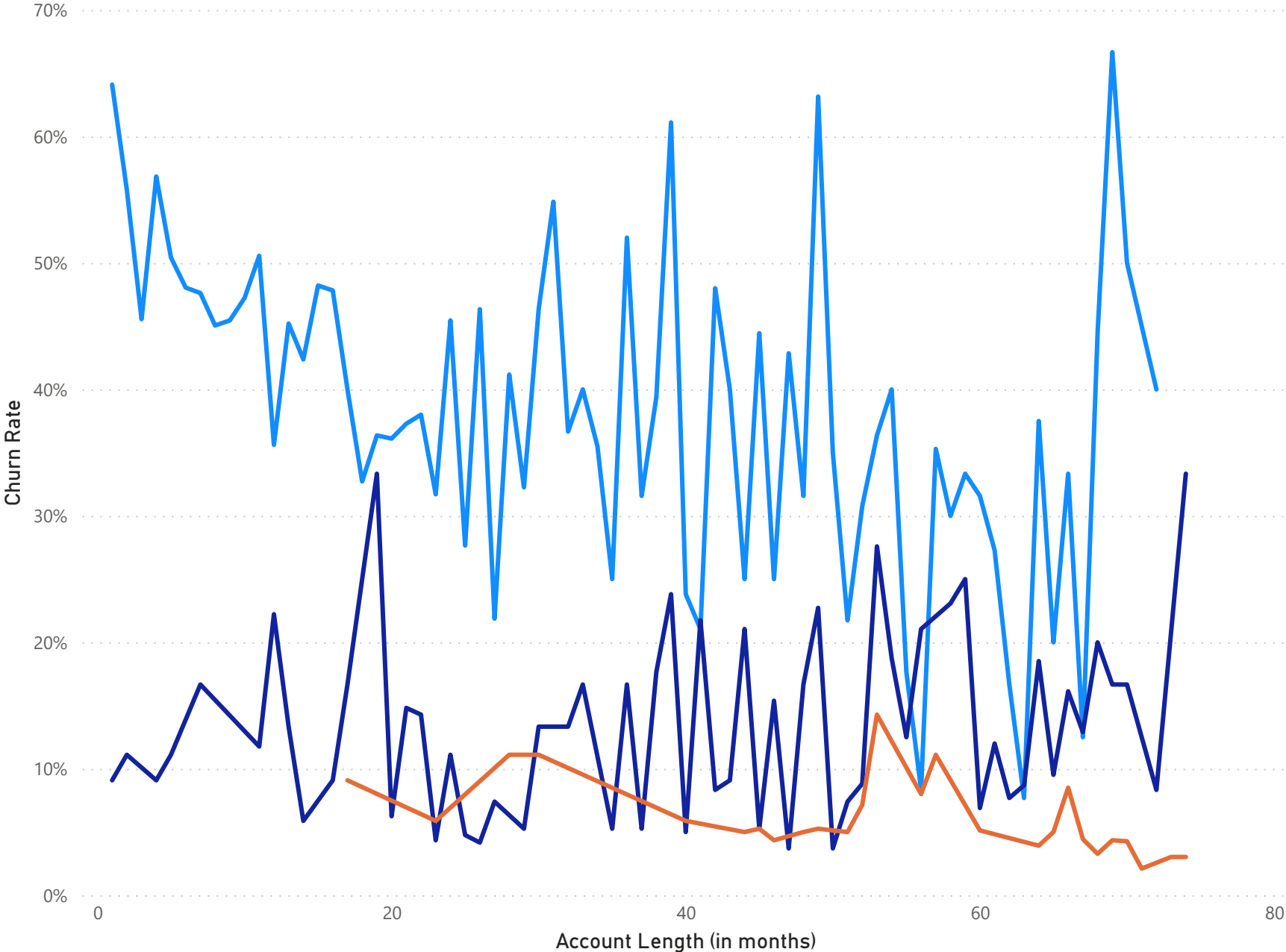
Churn Rate by State



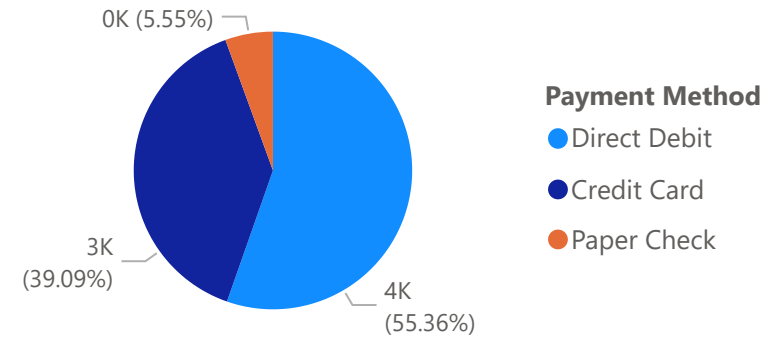
Intl Active	no	yes	Total
No	20.01%	71.19%	22.21%
Yes	40.34%	7.59%	34.31%
Total	27.07%	24.88%	26.86%

Churn Rate by Account Length (in months) and Contract Type

Contract Type ● Month-to-Month ● One Year ● Two Year



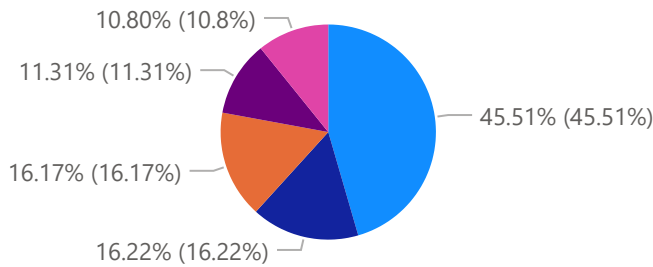
Number of Customers by Payment Method



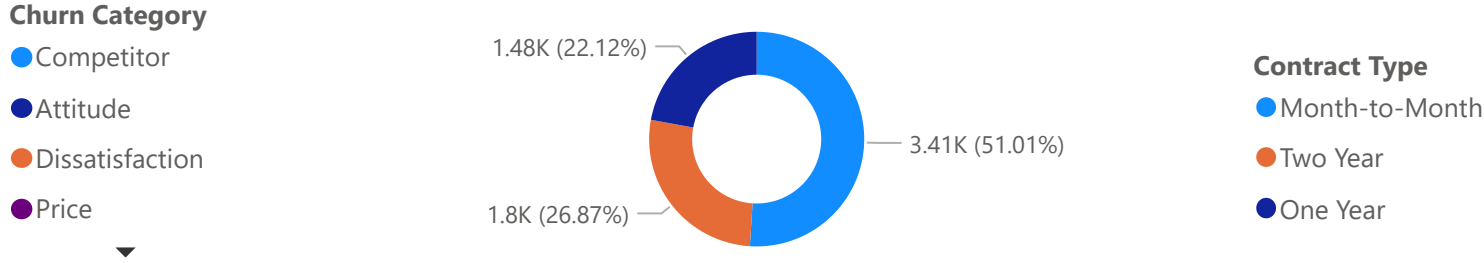
6687
Number of Customers

Age	Senior	Under 30	Churn Rate
196083	No	No	24.71%
31714	No	Yes	23.00%
89492	Yes	No	38.22%
317289			26.86%

%GT Count of Churn Label by Churn Category



Count of Customer ID by Contract Type



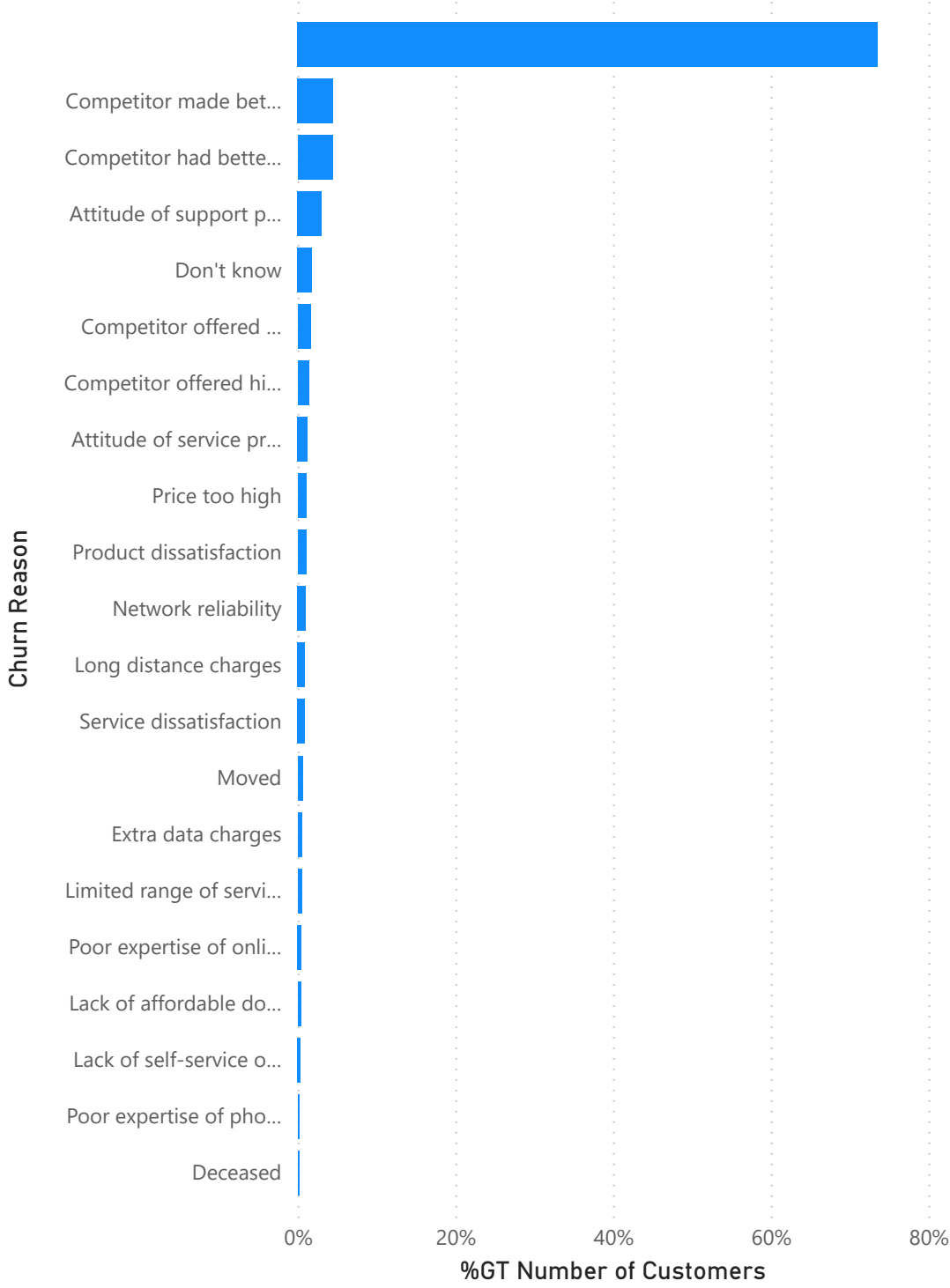
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Number of Churned Customers

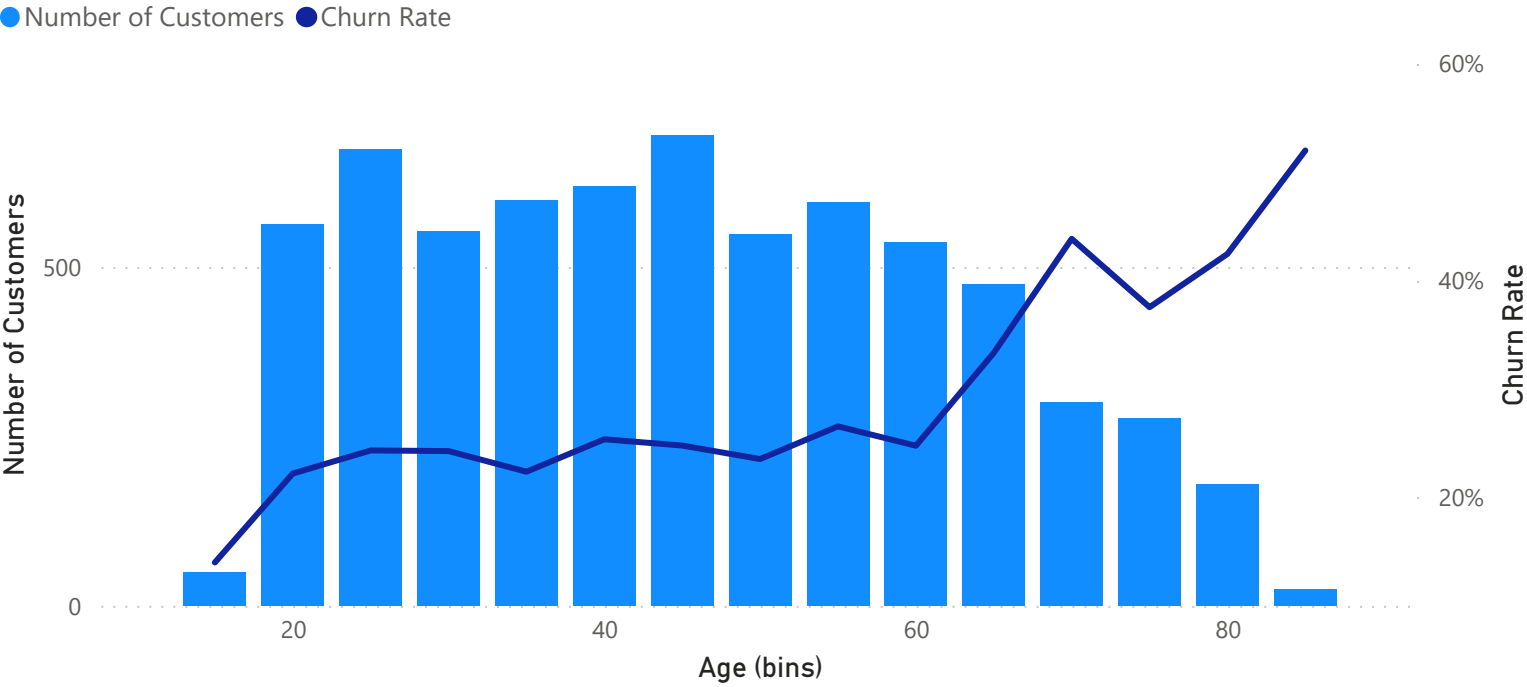
26.86%

Churn Rate

Number of Customers by Churn Reason



Number of Customers and Churn Rate by Age (bins)



Churn Rate by State



Account Length (in months)



2108

Number of Customers

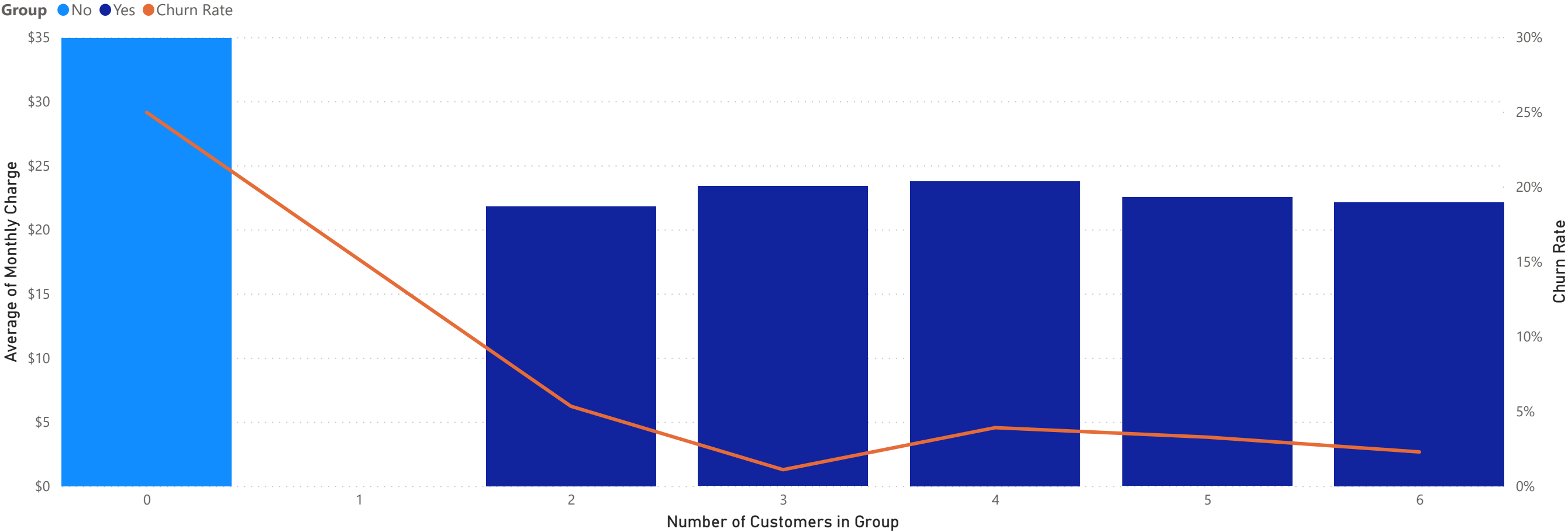
14K

Avg Monthly GB Download

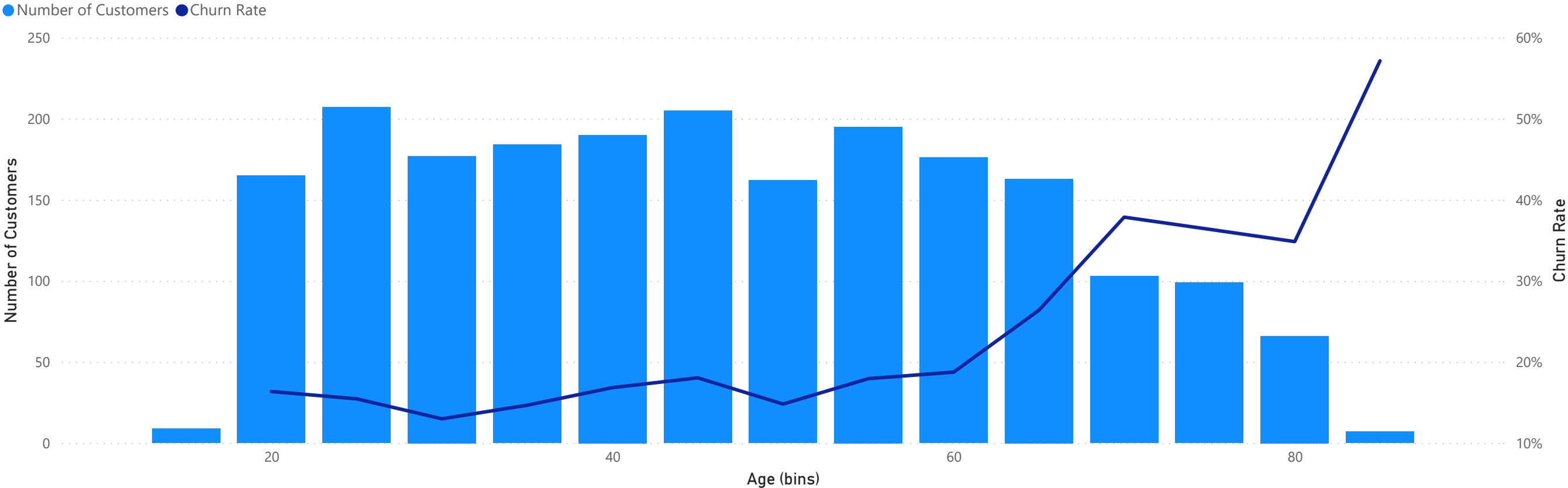
19.69%

Churn Rate

Average of Monthly Charge and Churn Rate by Number of Customers in Group and Group



Number of Customers and Churn Rate by Age (bins)



Contract Category

☐ Monthly

☐ Yearly

Payment Method

☐ Credit Card

☐ Direct Debit

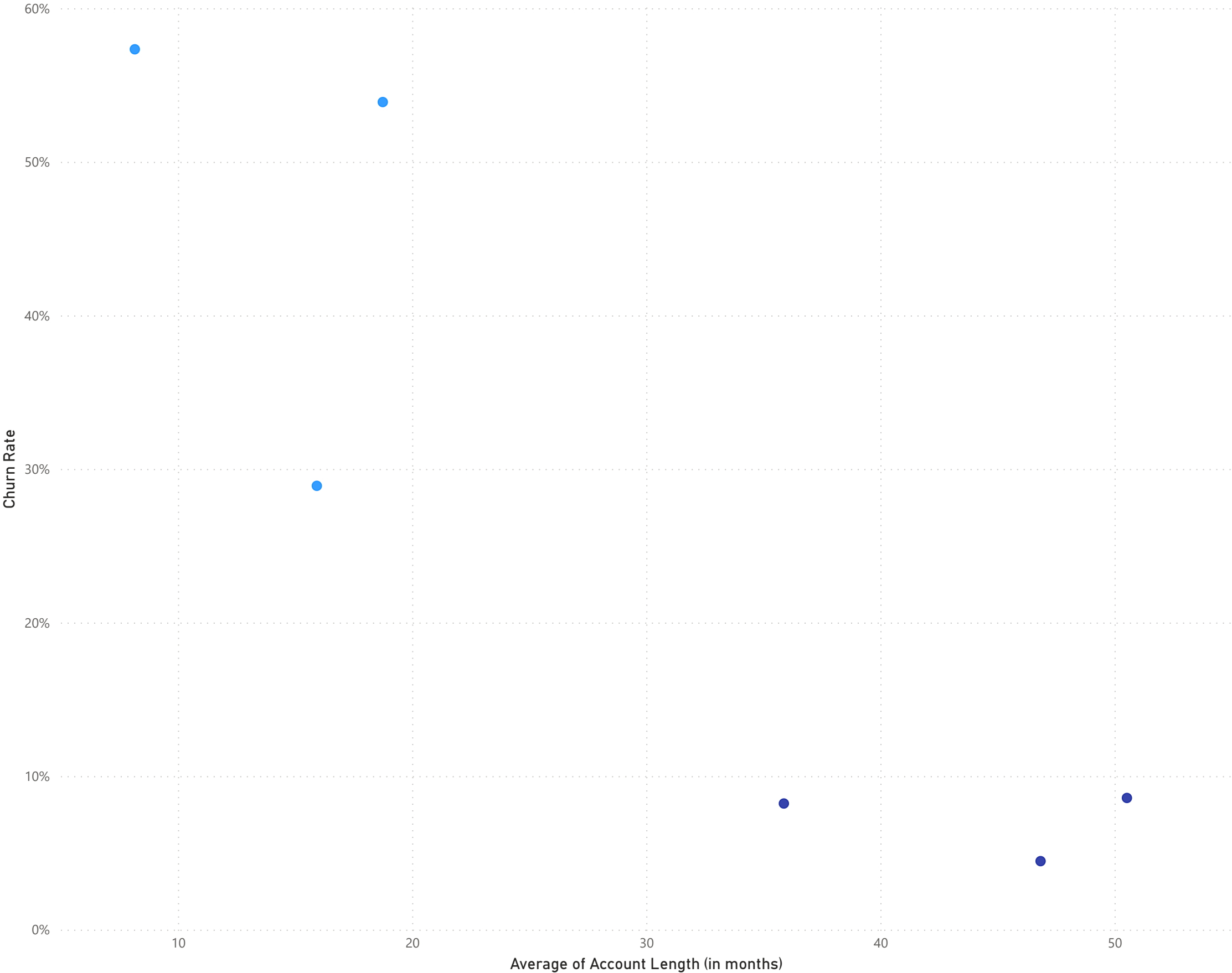
☐ Paper Check

Average of Account Length (in months) and Churn Rate by Payment Method and Contract Category

Contract Category

Monthly

Yearly



0.92

Avg Customer Service Call

6123

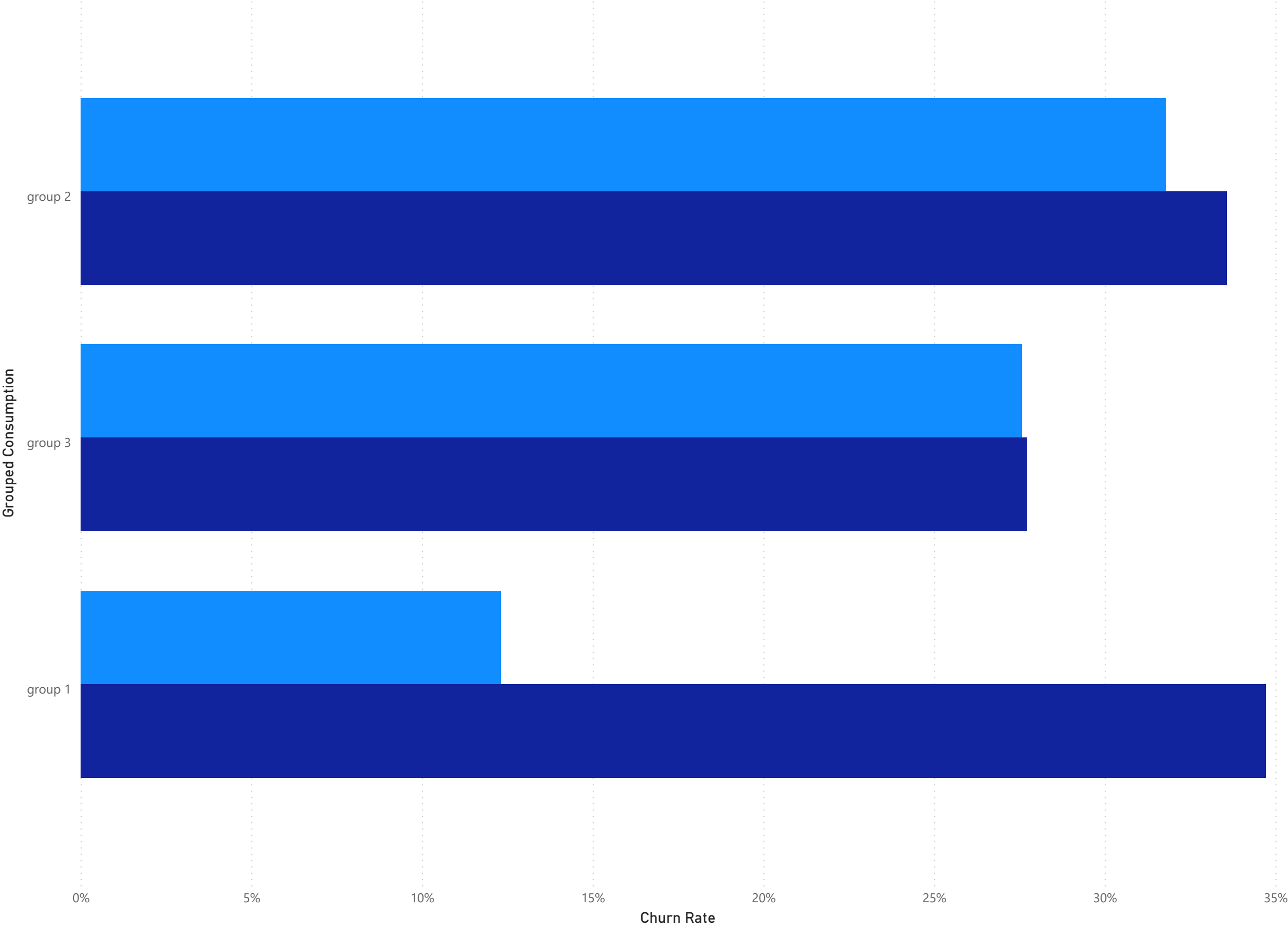
Customer Service Calls

26.86%

Churn Rate

Churn Rate by Grouped Consumption and Unlimited Data Plan

Unlimited Data Plan ● No ● Yes



Number of Customers	Unlimited Data Plan	%GT Churn Rate
2193	No	59.93%
4494	Yes	119.55%
6687		100.00%

3.37

Avg Extra Data Charges

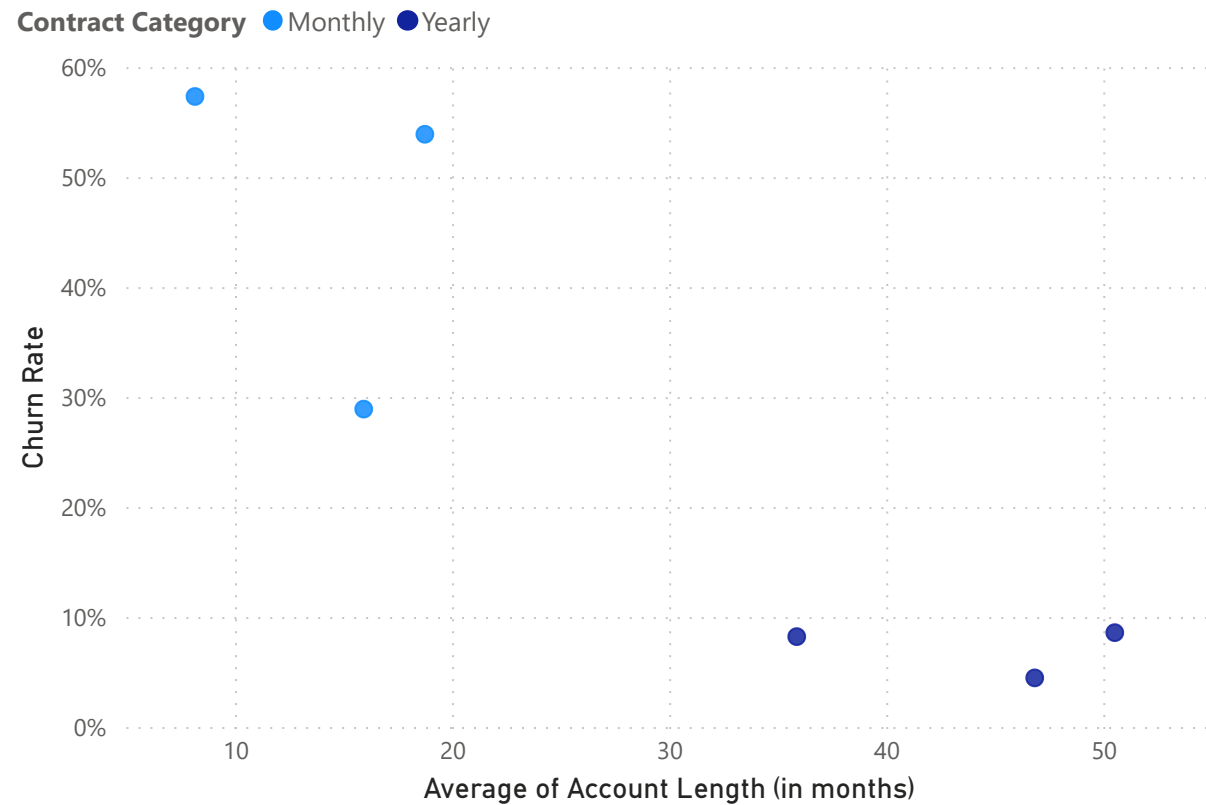
33.64

Avg Extra International Charges

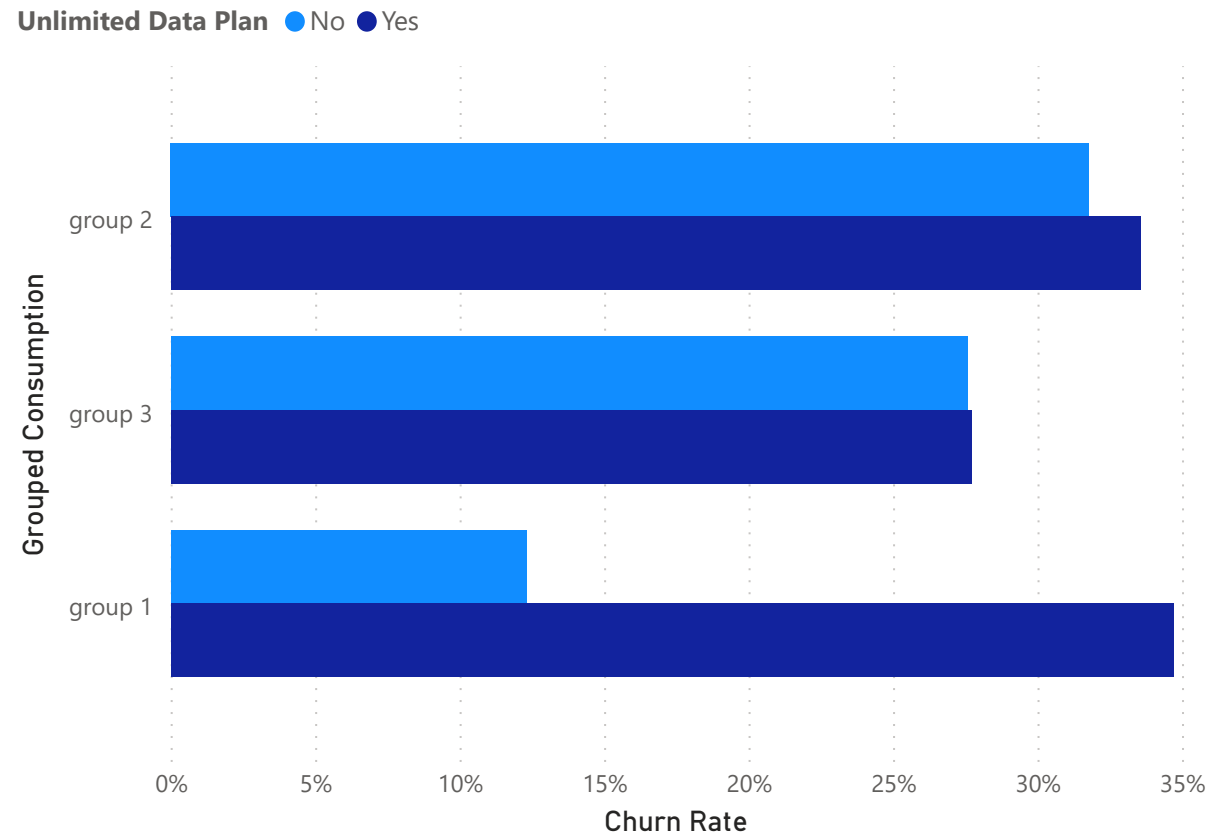
Contract Catego...
☐ Monthly
☐ Yearly

Payment Method
☐ Credit Card
☐ Direct Debit
☐ Paper Check

Average of Account Length (in months) and Churn Rate by Payment Method and Contract Category



Churn Rate by Grouped Consumption and Unlimited Data Plan



3.37

Avg Extra Data Charges

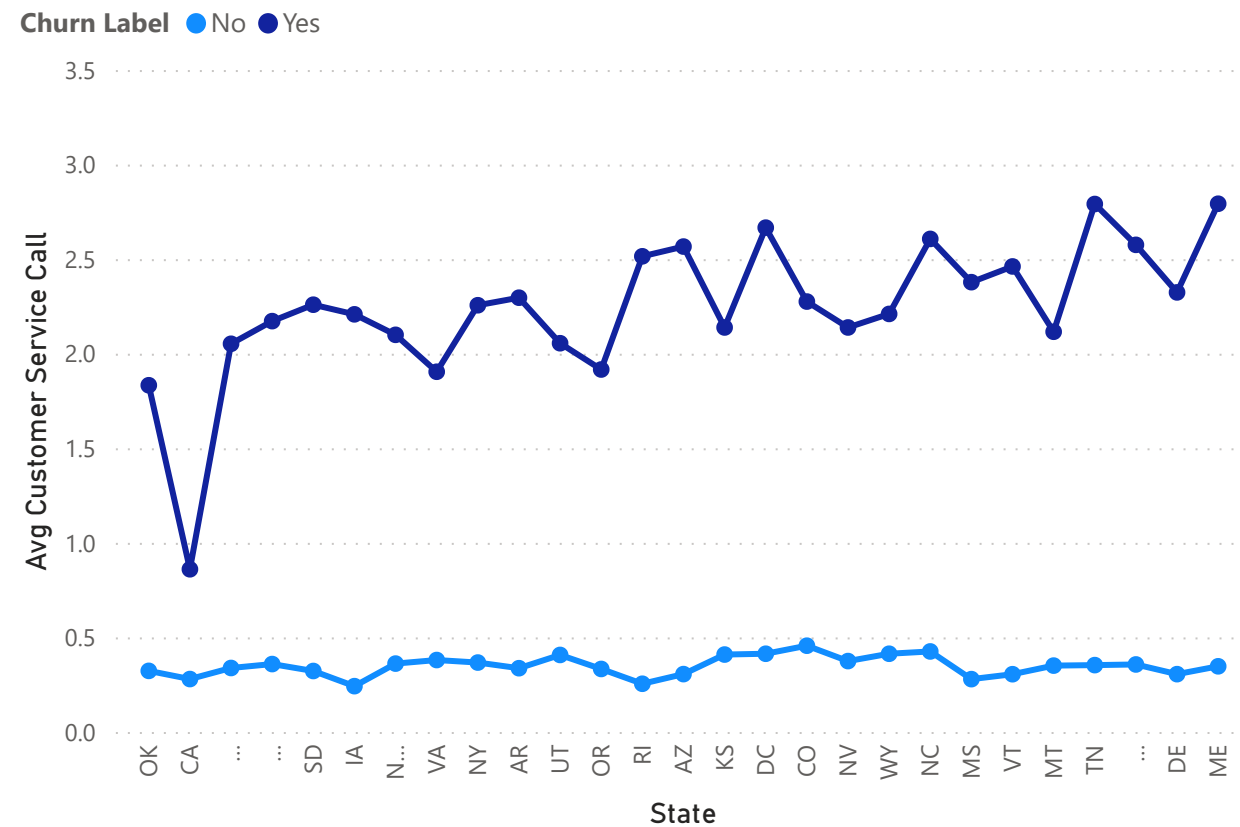
0.92

Avg Customer Service Call

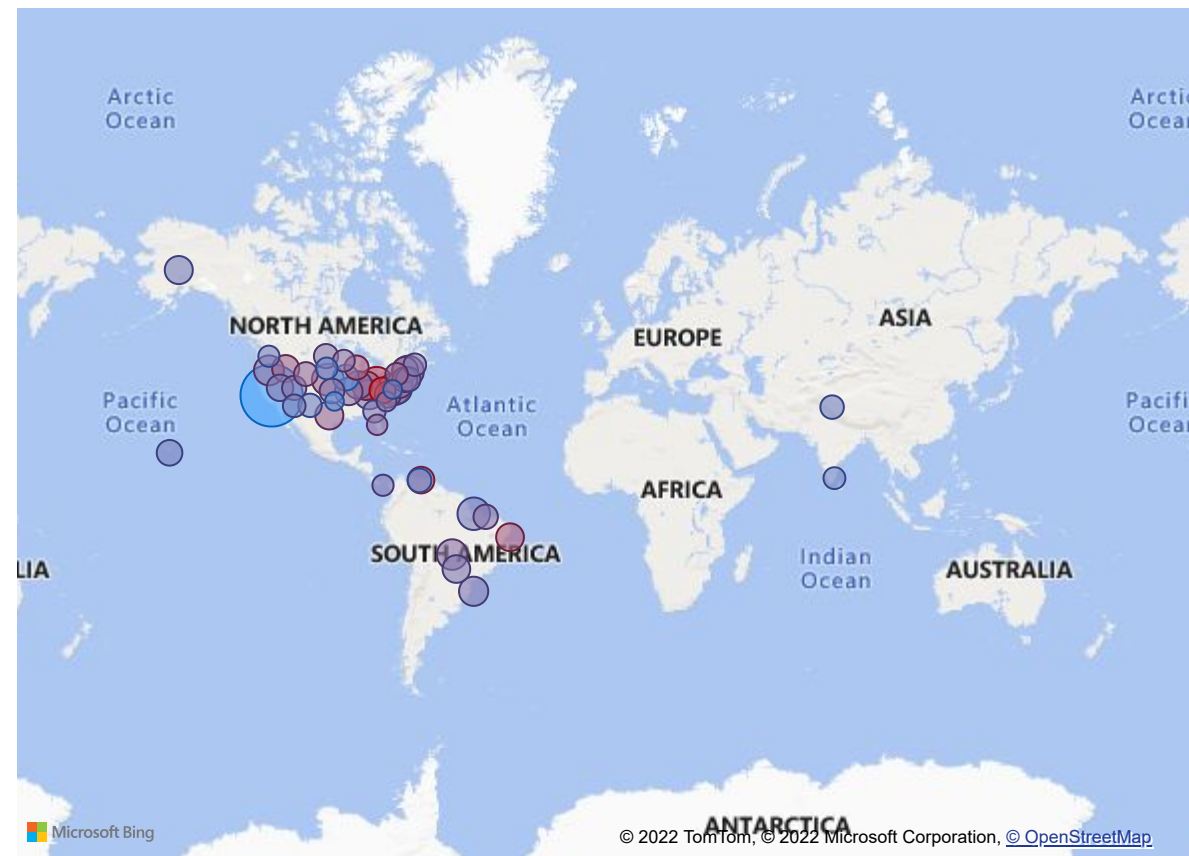
6123

Customer Service Calls

Avg Customer Service Call by State and Churn Label



Churn Rate by State



26.86%

Churn Rate

33.64

Avg Extra International Charges