



# Customer Churn Summary

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## Data and Code

This data consists of 7043 observations and consists of 21 variables (names and definitions can be found at the end of this document). A PDF file containing the R code used to create this analysis has been sent in tandem with this summary. The .csv file and an interactive .Rmd file will be made available upon request.

## Challenge

We are experiencing a great deal of customer turnover. We need to identify those customers that are most likely to leave and identify the reasons why they might be leaving.

## At Risk Customer Persona

Our most at risk customers are those that have subscribed to our “Fiber Optic” package, have been with us for less than 12 months, and are on a “Month to Month” (no contract) payment plan. These customers tend to be young professionals that enjoy spending on the newest and the most advanced technology. They may not understand the difference between the “Fiber Optic” and “DSL” services and subsequently may be misunderstanding the technical aspects of running their devices on the fiber optic network.

## Executive Summary

A large portion of our customer churn is coming from our customer segment with the 3 following main attributes:

1. “Fiber Optic” Internet customers
2. “Tenure” younger than 12 months
3. On a “Month to Month” contract

The breakdown of total customers in this segment and the associated churn rate are presented in the table below.

Total Customers	Churn	Churn Rate
876	618	70.5 %

In addition to the main attributes listed above, we have identified 5 subsequent attributes that will help identify potential customers that may be in danger of leaving. These attributes are as follows:

1. Payment Method is by "Electronic Check"
2. Customer has "No" Dependents
3. Monthly Charges are between 50 and 100 dollars
4. Customer is below 65 years of age
5. Customer did not use Tech Support service
6. Customer did not use Online Security Service

\* The following data is all a subset of the above table

	<b>Total Customers</b>	<b>Churn</b>	<b>Churn Rate</b>
Pay With Electronic Check	606	435	71.8 %
No Dependents	770	547	71.0 %
Does not have a Partner	653	459	70.3 %
Monthly Charges >= 50 and <100	831	584	70.3 %
Younger than 65	653	456	69.8 %
Did not use Tech Support	800	573	71.6 %
Did not use Online Security	800	579	72.4 %

## **Tactical Recommendations**

1. Use the Logistic Regression model to help identify the customers that are at risk of leaving us for another service. The Logistic Regression model can be found on lines 354 – 373. Click on the green arrow on the top right corner to run the model and see a statistical/performance summary of all of the variables and the model as a whole.
2. When signing up new customers we should push to enroll them in an automatic payment option. Customers are less likely to leave if payment is automatic.
3. We should follow up with the former customers so that we may understand if anything may have gone awry with our technology and/or user experience. If the customer was dissatisfied with our technology we will need to determine if our technology failed. If the customer was dissatisfied with their experience due to user error, we will need to do a better job of educating the customer on the new technology.
4. We should make "Tech Support" part of the customer experience from the onset of the customer relationship. If we can catch any misconception or misunderstanding of the technology from the customer's perspective we

will be able to build good will with the customer and avoid any fallout from user error.

5. Our competitors have been offering aggressive pricing on their fiber optic services over the past year. While our technology is superior, the customer may not understand why and simply be shopping on price. If we cannot compete on price we will need to refine our target audience and position our product accordingly.

## **Conclusion**

The margin at the moment on our “Fiber Optic” offering is thin and our competitors understand that. Our competitors are trying to gain market share with an inferior product by offering at a price point that will be impossible for us to match. We should disengage from this “race to the bottom” pricing strategy all together and reposition our offering for the tech savvy early adopters that are not afraid of the technical nature of our “Fiber Optic” offering. Selling them on the technology will be simple and we can use their experience through their interaction with our Tech Support team to gain insight on making the tech experience more palatable for the masses. As we start to accomplish a more user-friendly experience we can begin implementing strategic and aggressive pricing campaigns so that we can get to scale and re-win our loss of market share.

## Appendix

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Variable	Definition
Customer ID	Unique customer identifier
Gender	Binary, Male or Female
Senior Citizen	Senior Citizen is defined as 65 years old or over
Partner	A person having a partner has given equal access to their account
Dependents	As defined by State and Federal Tax law
Tenure	A customer's tenure is stated in months
PhoneService	'Yes' or 'No'
MultipleLines	'Yes', 'No', or 'No Phone Service'
InternetService	'No', 'DSL', or 'Fiber Optic Cable'
OnlineSecurity	'No', 'DSL', or 'Fiber Optic Cable'
OnlineBackup	'Yes', 'No', or 'No Internet Service'
DeviceProtection	'Yes' or 'No'
TechSupport	'Yes', 'No', or 'No Internet Service'
StreamingTV	'Yes', 'No', or 'No Internet Service'
StreamingMovies	'Yes', 'No', or 'No Internet Service'
Contract	'Month to Month', 'One Year', or 'Two Year'
PaperlessBilling	'Yes' or 'No'
PaymentMethod	'Credit card (automatic)', 'Bank transfer (automatic)', 'Electronic check', or 'Mailed check'
MonthlyCharges	The customer's current monthly rate in dollars
TotalCharges	Total amount spent by that customer to date
Churn	'Yes', or 'No'