

Welcome to

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# Swan Teleco



"Turning Churn into growth: Harnessing data to predict, prevent, and retain."

# Customer Retention Analysis

- Investigating what factors make a person more likely to stay?
- What factors most influence someone churning?
- What sign up factor should we incentivise?
- We are using the data to provide an effective solution to reduce how many customers churn.

# Contents:

## A look into the Key Demographics :

- Gender
- Age - 'Senior Citizens'
- Family makeup:
  - Partner
  - Dependants

## Products and Services:

- Products
  - Churn analysis

## Our Insights into the data:

- Why are the customers leaving? What are the reasons for leaving?
- What factors make a person more likely to stay?

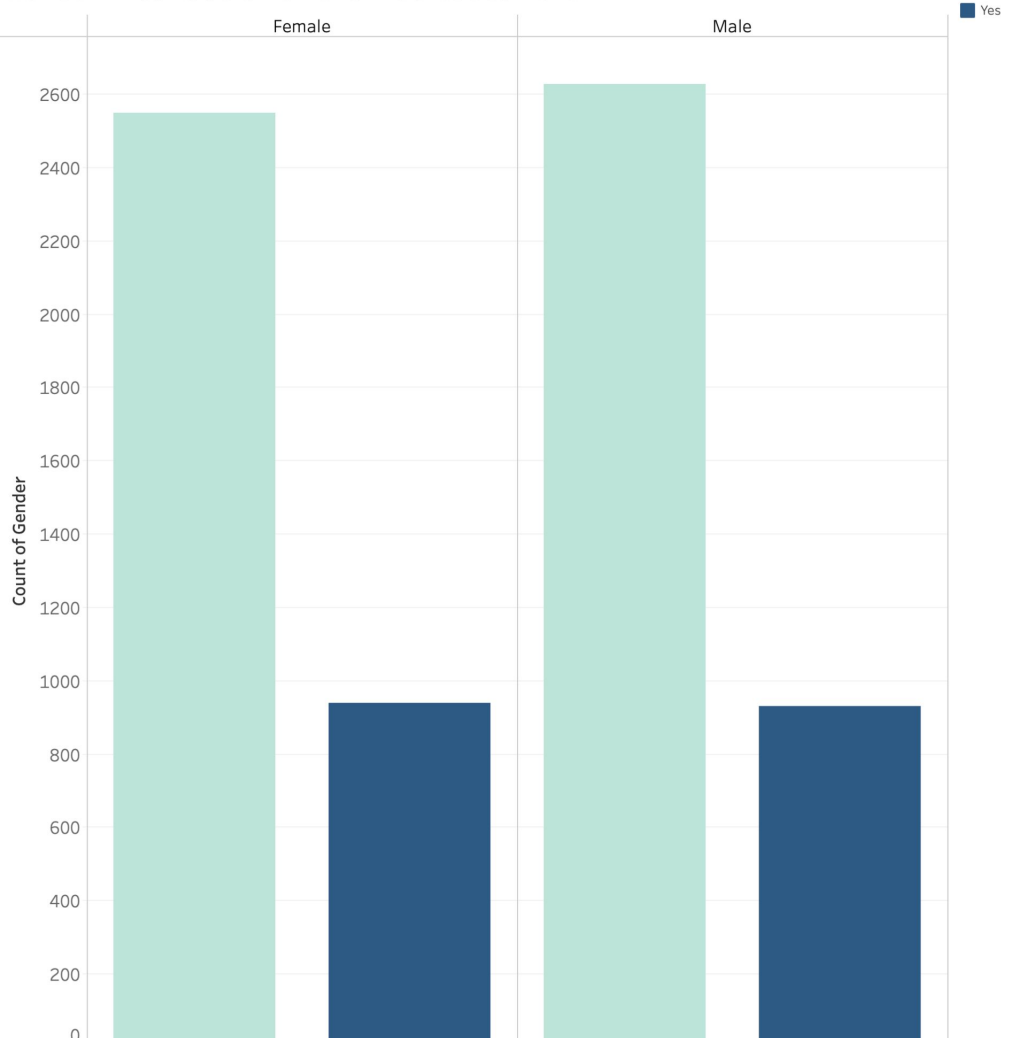
## Finally our model and suggestions:

- What sign up factor should you incentivise?
- Our Model & Performance Statistics

# Analysis of the Key Demographics

- Gender
- Senior citizen (Age)
- (Family makeup)
  - Partner
  - Dependants
- All Contributing Factors

Gender Distribution of Churned Customers

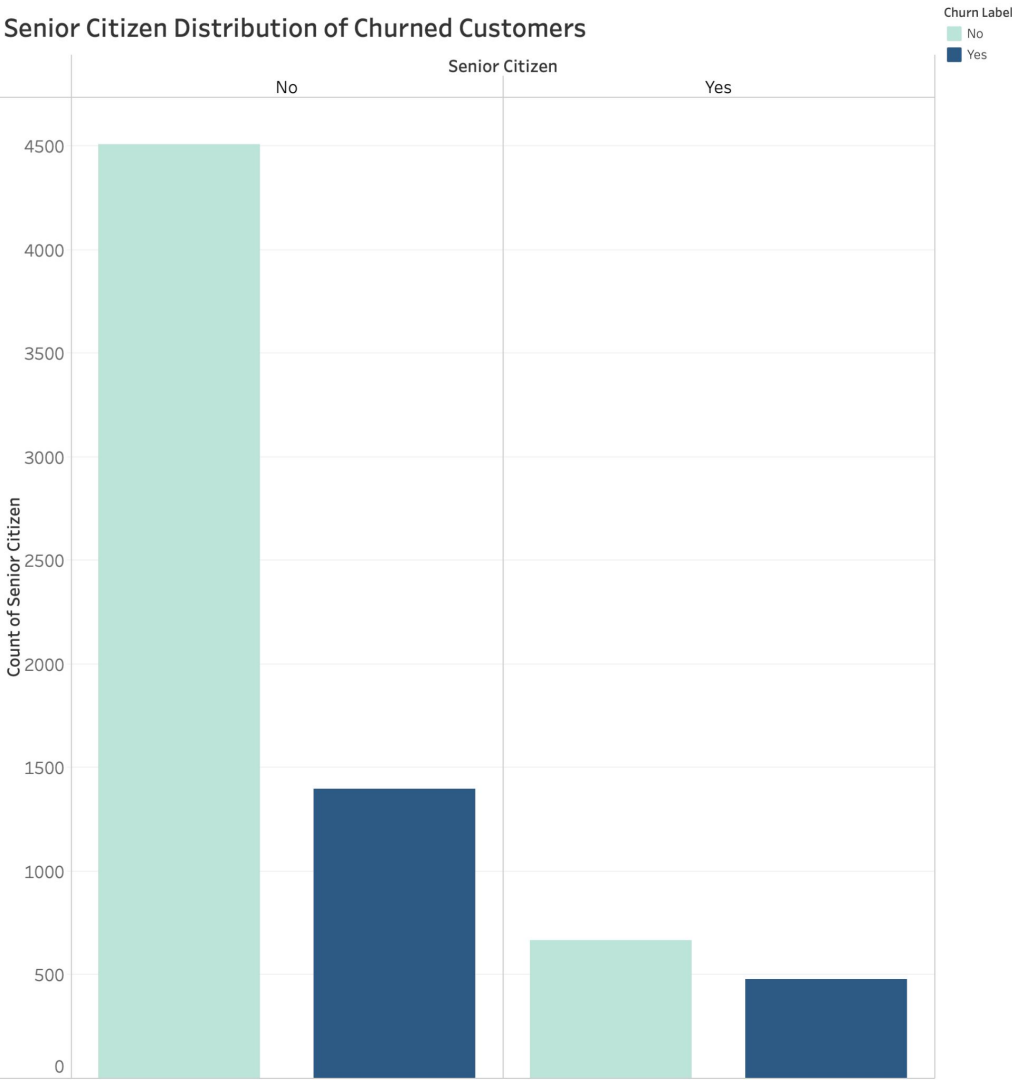


# Gender Distribution

In terms of gender there is a very even split between male and female across current customers and those who have left.

From this we have see that gender of the customer does not affect their likelihood of leaving.

Senior Citizen Distribution of Churned Customers



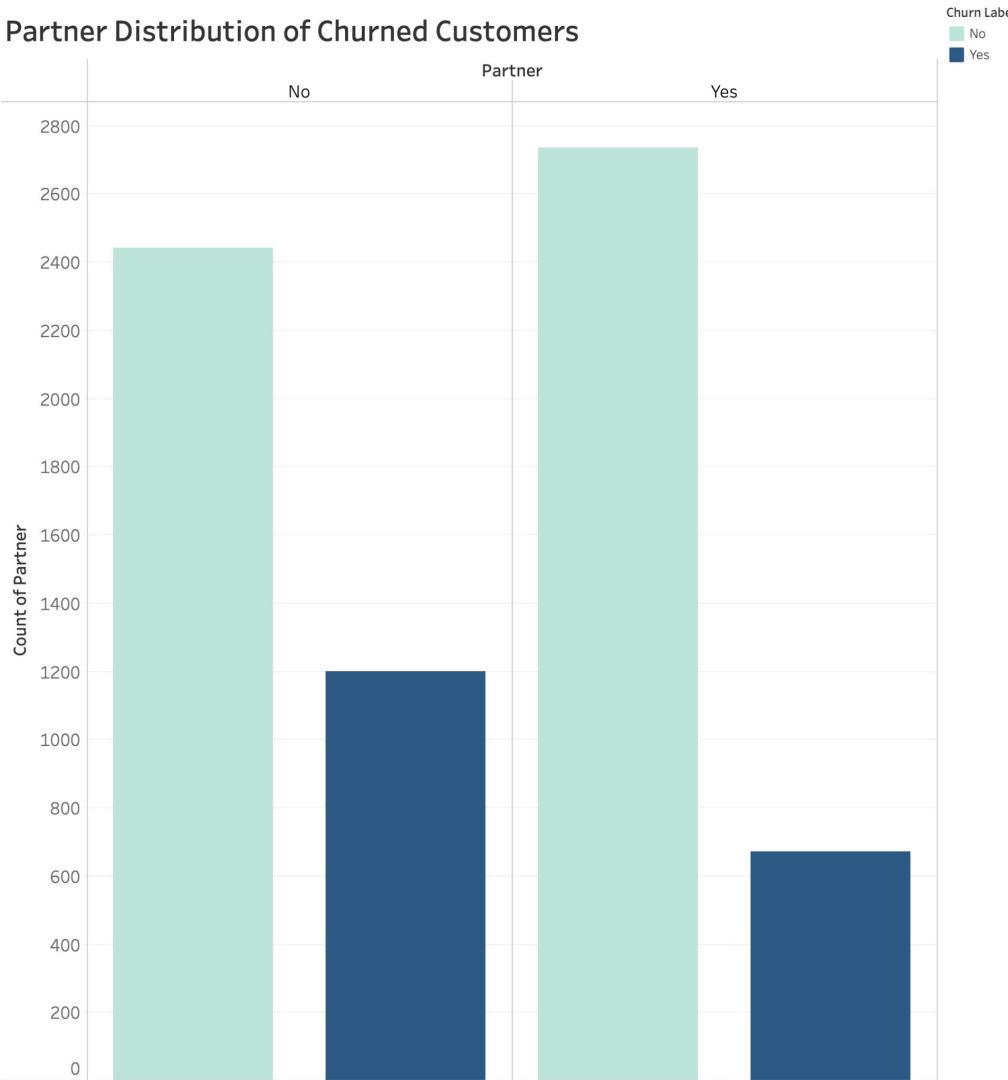
# Age Distribution

Here it is visible that the amount of senior citizens that have left is almost equal to the amount that are still customers.

It is clear that being a senior citizen increases the chances of leaving.

This suggests that improvements could be made to improving the experience for an older demographic.

Partner Distribution of Churned Customers



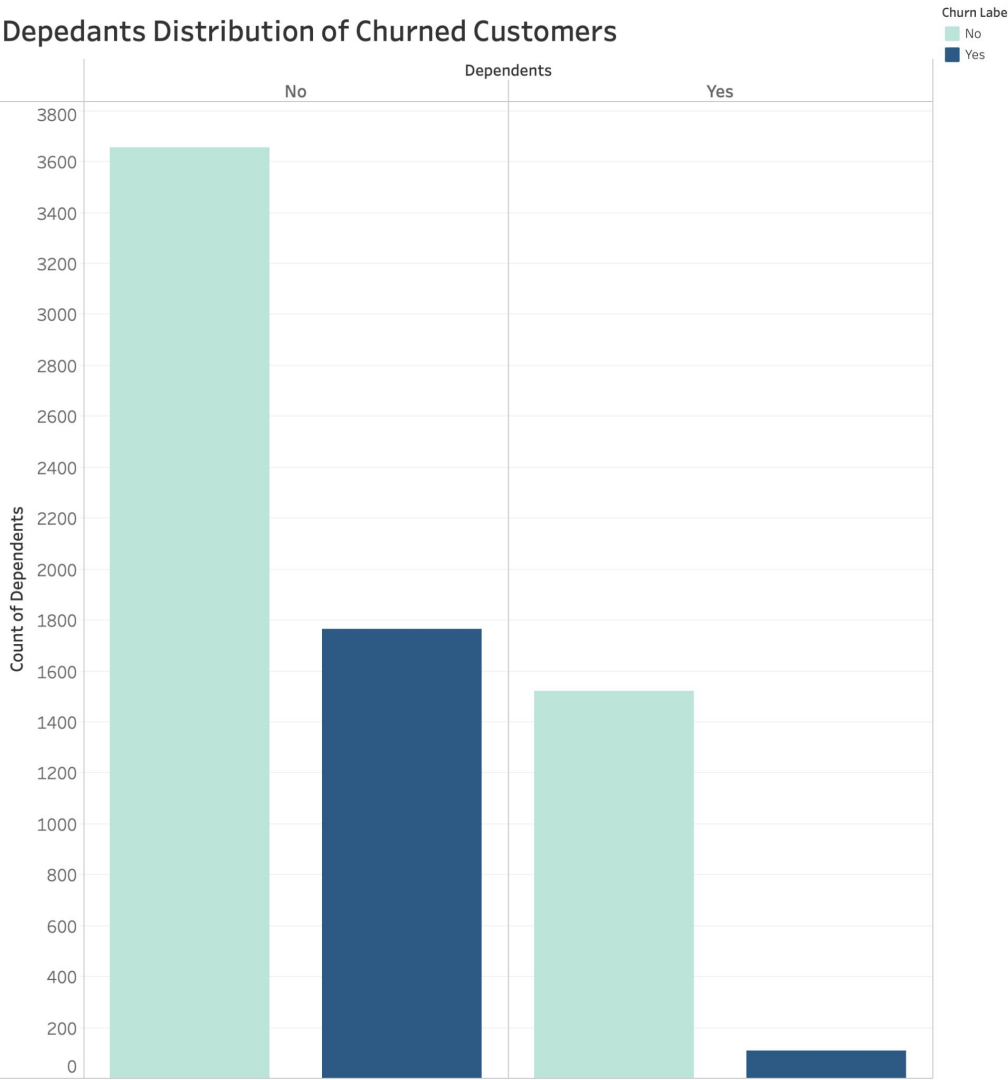
# Partner Distribution

Looking at the distribution of customers that have a partner it is reasonably equally distributed with slightly more customers with a partner.

However when looking at the churned customers, significantly more that have no partner churned, over those that do.

Promoting deals for those customers without a partner could be beneficial.

## Dependants Distribution of Churned Customers



# Dependants Distribution

In this data it shows that having a dependant gives a very low chance of churning. This suggests that Swan Teleco promotes good quality 'Family deals'.

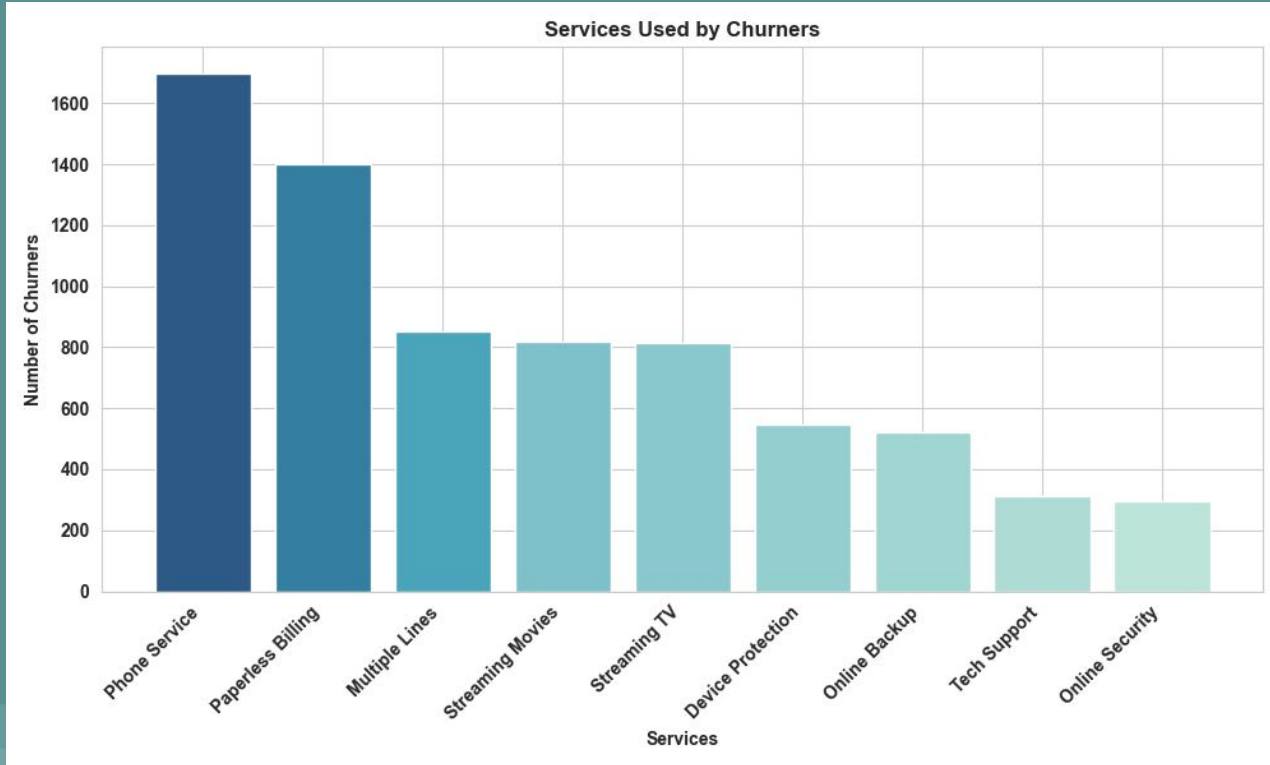
To reduce the higher churn rate of those without dependants, potentially look into specific offers for this demographic.



# Analysis of Products and Services

- Products/Services:
  - Phone Service
  - Multiple lines
  - Online security
  - Online backup
  - Device protection
  - Tech support
  - Streaming Tv
  - Streaming movies

# Products/Services Distribution

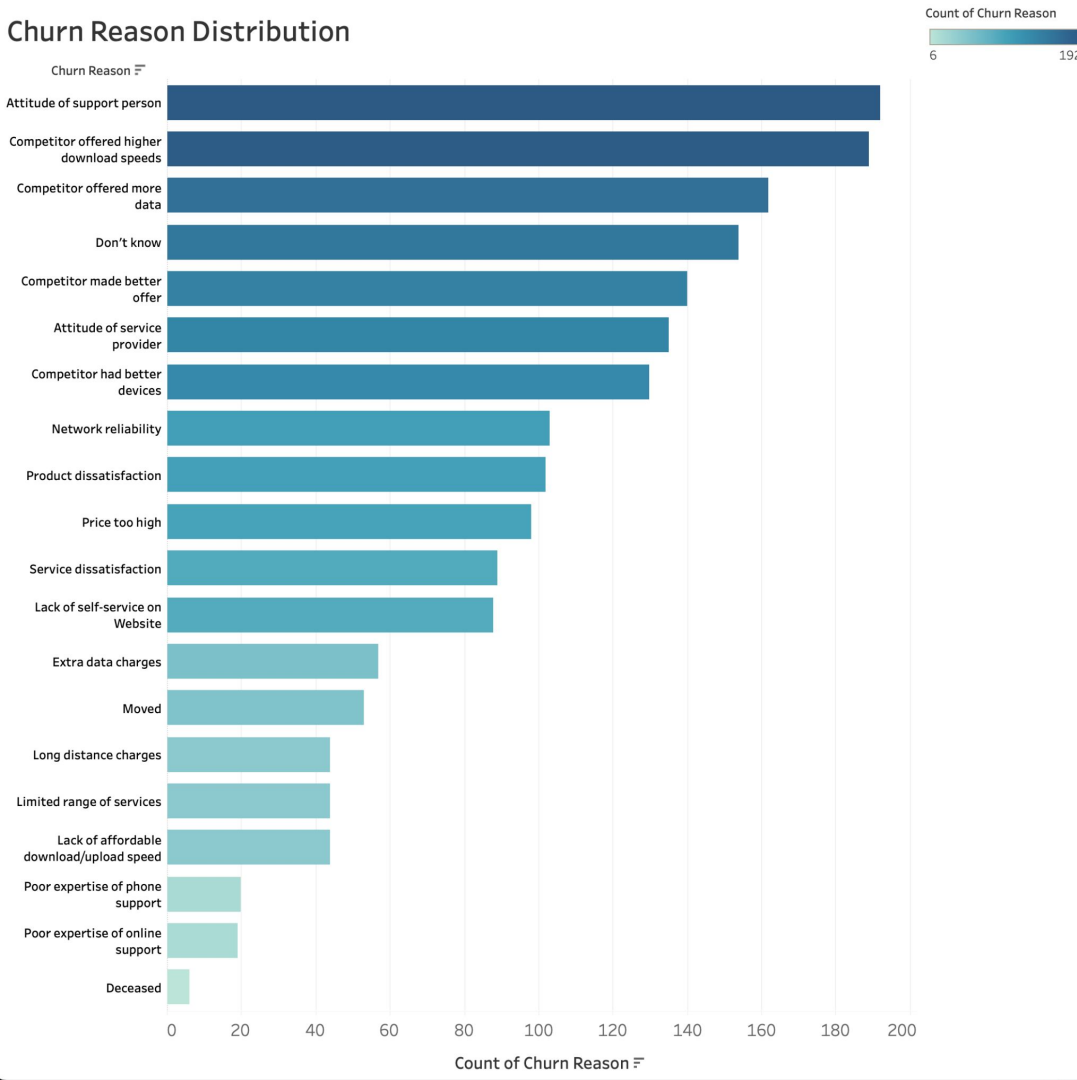


Given the distribution of services it is clear that the services with the highest amount of customers leaving are 'Phone Service' and 'Paperless billing'

To reduce these numbers, further analysis into the areas would be recommended

# Our Insights

- What are the reasons for leaving?
- Why are the customers leaving?
- What factors make a person more likely to stay?



# Reasons for leaving

In total there were 20 different reasons for customers leaving. From a total of 1869 customers that have already left the service

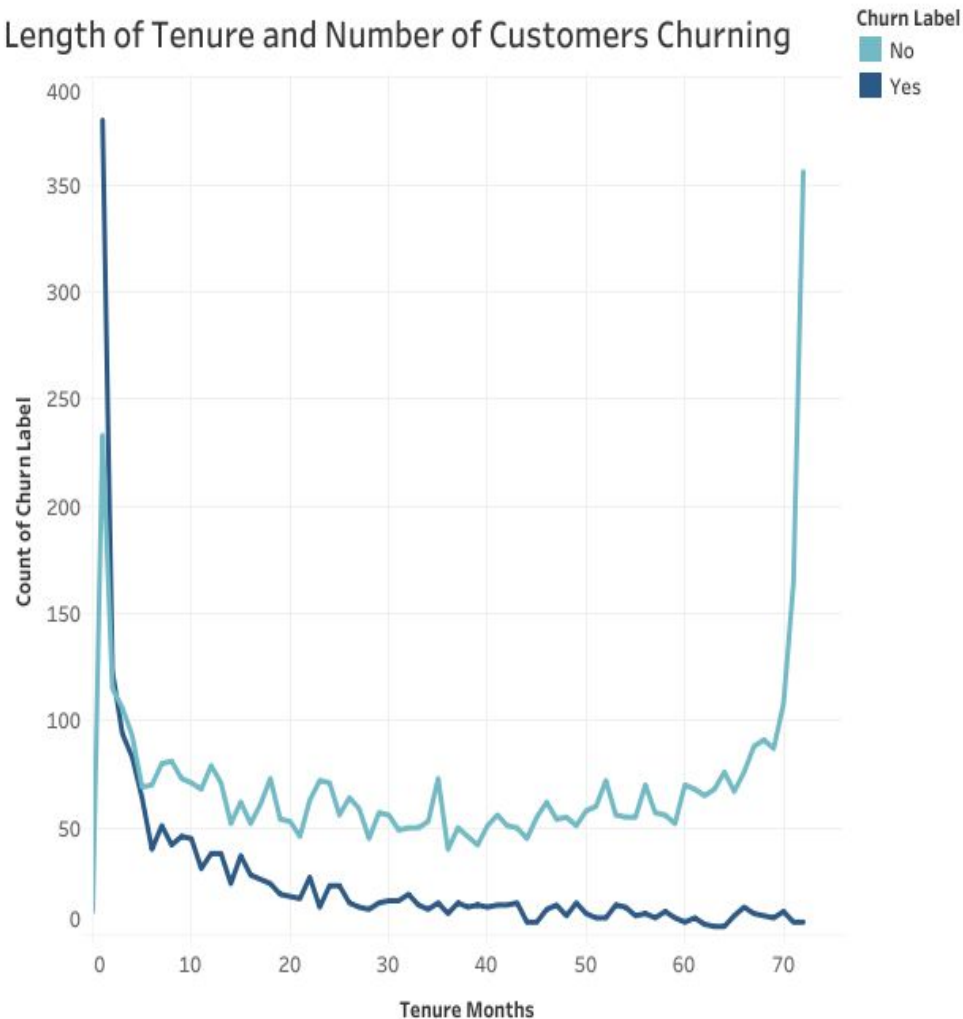
## Top 6 Reasons for leaving:

1. Attitude of Support Person
2. Competitor offered higher Download speeds
3. Competitor offered more data
4. Don't Know
5. Competitor made a better offer
6. Attitude of service provider

# Why are the Customers Leaving and what can we change to make a person more likely to stay?

- Three of these top reasons for leaving show customers found better products or value for money from a competitor.
  - Encouraging better deals for these categories would incentivise them to stay.
- There are also around 150 customers that did not state a reason for leaving.
  - Changing this option to ask the customer to give a reason could help give better results
- The most common reason for leaving was the '*Attitude of Support Person*' and '*Attitude of service provider*' was also within the top 6
  - Providing further training for the support team could be of benefit.
  - Creating some specific deals that the team could offer these customers could create better customer satisfaction

Length of Tenure and Number of Customers Churning



## What factors make a Person more likely to stay?

- The longer the customers tenure, the less likely they are to churn
- Contract renewals are very important in customer retention
- It would be beneficial to focus on customer retention and signing new customers onto yearly contracts

Number of Customers Churning with respect to their Contract Length



# What factors make a Person more likely to stay?

- Yearly contracts have a much lower rate of customers churning compared to the Month-to-month contracts
- Therefore, it would be beneficial to sign customers onto these yearly contracts as shown previously as well

# **Our Incentives & Model Performance Statistics**





# What Sign up Factor should you incentivise?

The Key Area we think you should Incentivise is:

## Contract length:

- Encouraging the new customer team to sign customers onto **yearly contracts**
- Increasing a customer's tenure with Swan Teleco also reduces the risk of churning and helps with customer retention

More Notable Points to increase current customer retention:

- **Provide Comprehensive Customer Service Training Programs** to increase satisfaction with your customer support department.
- Optimizing and improving existing network equipment by **upgrading infrastructure** for better performance against competitors.
- Increase data allowances and offer **flexible data plans** for the customers at better rates, and appeal to a variety of demographics.

(based on customer feedback/Churn Reason)

# Our Model Statistics

We split the data into training and test data to work with. We trained the data on several models and have used the best performing model that gave us the below metrics on both data sets.

- **Accuracy: correct predictions / all predictions**
- **Recall: the proportion of churns that were correctly identified\***
- **Precision: the proportion of positive predictions that were correct\***
- **F1-Score:  $2 \text{ (Precision} \times \text{Recall)} / \text{Precision} + \text{Recall}$**

Metrics	Training Data	Testing Data
Accuracy	0.80	0.80
Recall	0.94	0.95
Precision	0.82	0.81
F1-Score	0.88	0.87

\*See here for more detail

<https://developers.google.com/machine-learning/crash-course/classification/precision-and-recall>



# Thank you for your time

Please feel free to reach out to our team if you have any further questions

**Links to Visualisations Used:**

[https://public.tableau.com/shared/NBZTM94YF1?display\\_count=en&origin=vs\\_share\\_link](https://public.tableau.com/shared/NBZTM94YF1?display_count=en&origin=vs_share_link)

[https://public.tableau.com/views/SwanTelecoGraphics/SwanTelecoAnalysis7?language=en-GB&publish=yes&size=&display\\_count=en&origin=vs\\_share\\_link](https://public.tableau.com/views/SwanTelecoGraphics/SwanTelecoAnalysis7?language=en-GB&publish=yes&size=&display_count=en&origin=vs_share_link)

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