TELECOM's problem: low customer retention	Find commonalities: fiber optic Internet, electronic paperless billing	Find commonalities: monthly contracts, smaller households	Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Devic..

IMPROVING TELECOM'S LOW RETENTION RATE TO MAXIMIZE REVENUE

With telecom being a global 1.7 trillion dollar industry defined by innovation and fierce competition, churn rate can be high.
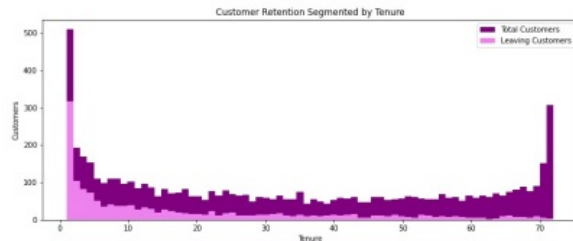
This month Telecom will lose 27% of its customers, accounting for 18% of its revenue over the last 6 years.

Plan:

1. Target customers who are likely to leave -- Internet (especially fiber optic), paperless billing, electronic check, monthly contracts, small households

2. Promote services the target customers use (primarily "All Services" and "Phone and Internet") via narrowing price differences and promoting to customers at tenures with high churn

3. Also promote add-ons Device Protection and Online Backup to target customers (can also be used to ID target customers)

Customer Retention Segmented by Tenure

Source: https://www.kaggle.com/radmirzosimov/telecom-users-dataset
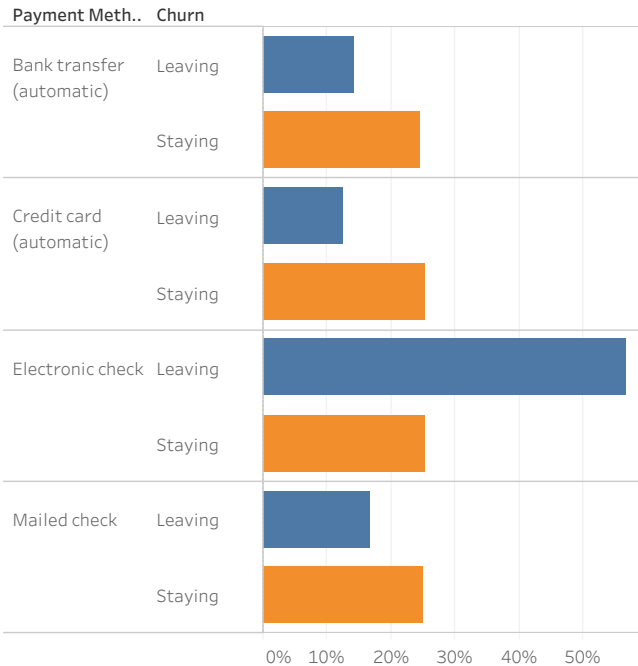
Improving Churn Rate at TELECOM

TELECOM's problem: low customer retention	Find commonalities: fiber optic Internet, electronic paperless billing	Find commonalities: monthly contracts, smaller households	Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Devic..

Leaving customers can be targeted by their preferences for faster Internet and paperless and electronic check billing

Electronic Payment

Payment Meth..	Churn	
Bank transfer (automatic)	Leaving	
	Staying	
Credit card (automatic)	Leaving	
	Staying	
Electronic check	Leaving	
	Staying	
Mailed check	Leaving	
	Staying	

0% 10% 20% 30% 40% 50%

Paperless Billing
Leaving: 74%
Staying: 53%

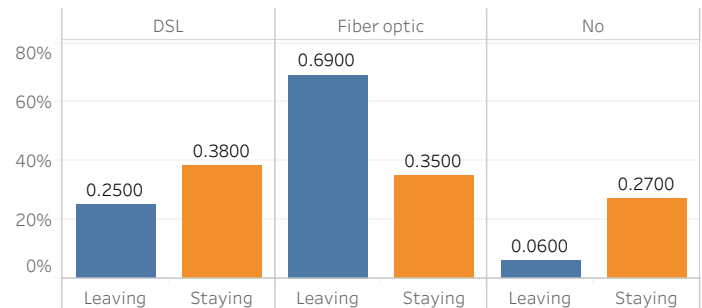### Insights:
~ "Tech savvy"
~ Prefers to manage finances online
~ High Internet usage

Internet Service, especially Fiber Optic

	DSL		Fiber optic		No	
	Leaving	Staying	Leaving	Staying	Leaving	Staying
	0.2500	0.3800	0.6900	0.3500	0.0600	0.2700

80% 60% 40% 20% 0%

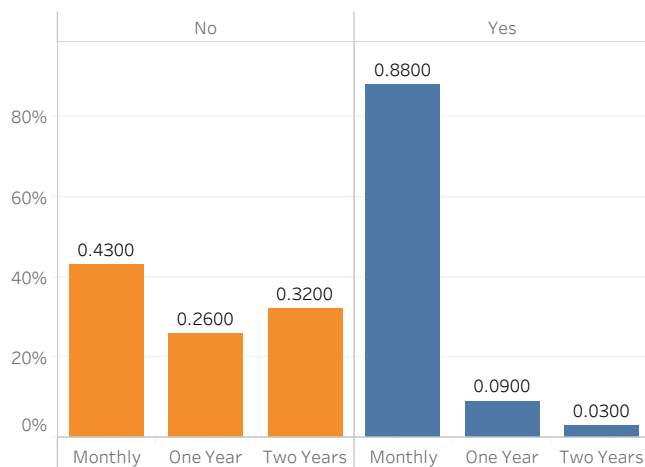| TELECOM's problem: low customer retention | Find commonalities: fiber optic Internet, electronic paperless billing | Find commonalities: monthly contracts, smaller households | Choose which customers to pursue | Finding commonalities (decision tree) | Promote "All Services" and "Phone and Internet" | Promote Online Backup and Devic.. |

Leaving customers can also be targeted by their preferences for monthly contracts and smaller households
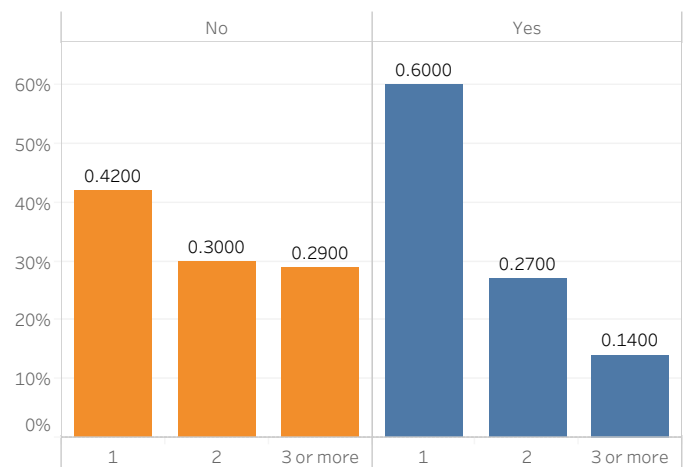
Insights:
~ Less likely to financially to commit - ("testing it out" stage?)
~ Transient lifestyle?
~ Younger? (tech savy, less stationary, not heads of..

~ Fast Internet without needing to share bandwidth (small household) implies especially tech savy customer
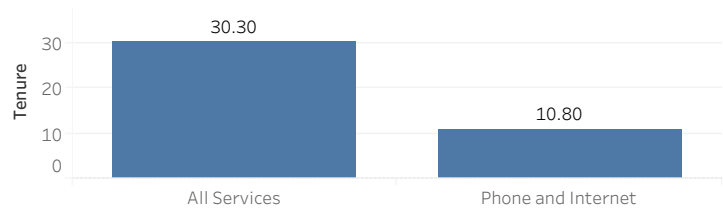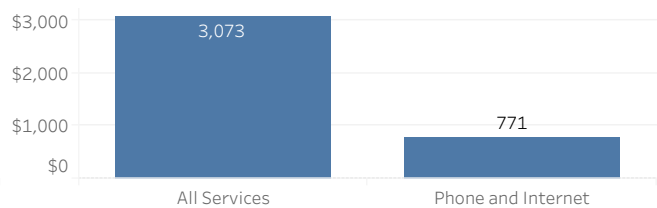
Contract Length

Smaller Households

Improving Churn Rate at TELECOM

Due to different revenue streams, Telecom must decide which "Service Bundle" customers to pursue within the target customers
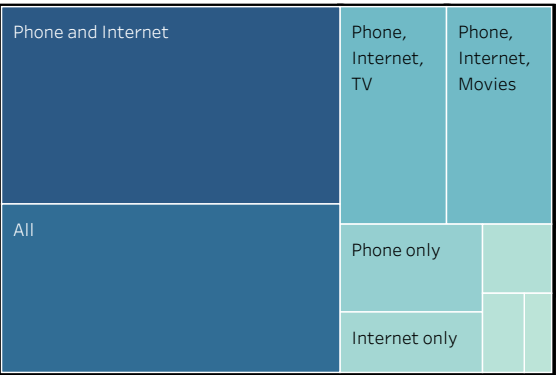
Tenure for Service Extremes

Total Charges for Service Extremes

Services for Leaving (1587 customers total)

All Services: $101/month
Phone and Internet: $71/month

Insights:

~ "All Services" has higher revenue per month than "Phone and Internet" by $30/month

~ Revenue calculations do not include cost or profit margins, and "All Services" probably has higher costs

Improving Churn Rate at TELECOM

Alternative Analysis

Decision tree: largest populations of leaving customers have monthly contracts, fiber optic Internet, and short tenures (similar results)

MONTH-TO-MONTH CONTRACT

Phone Only
Tenure < 6 months
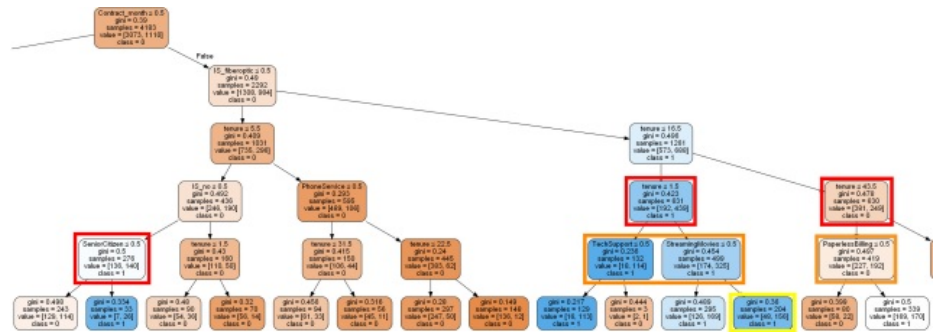(especially Senior Citizens)
(13% of all cases, 50% pure)

Fiber Optic Internet
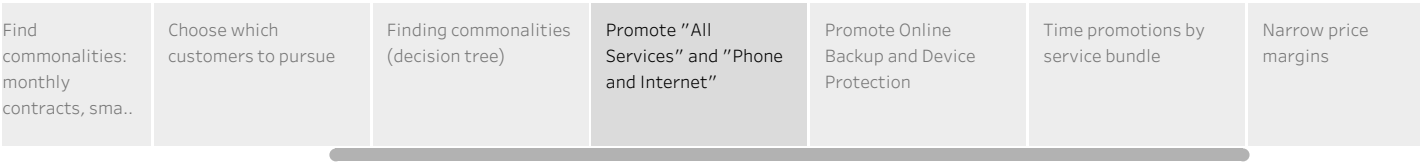Tenure 1 month *(10% of all cases, 86% pure)*

Tenure 2- 16 months *(29% of all cases, 65% pure)*
   Subtype : Streaming Movies *(14% of all cases, 76% pure)*

Tenure 16 - 44 months *(17% of all cases, 46% pure)*
   Subtype: Paperless Billing *(15% of all cases, 50% pure)*

Identifies 70% of Total Cases
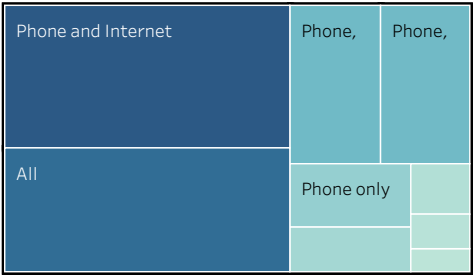
Improving Churn Rate at TELECOM

"Phone and Internet" and "All Services" should be promoted because each represents roughly 1/3 of leaving customers

Insights:

~ Improving "All Services" may also improve "Phone, Internet, TV" and "Phone, Internet, Movies"
~ "Phone only" does not need to be improved
~ Staying customers also has a large population of "Phone and Internet" and "All Services," making the low retention rates of those services a concern

Services for Leaving (1587 customers total)

Services for Staying (4389 customers total)
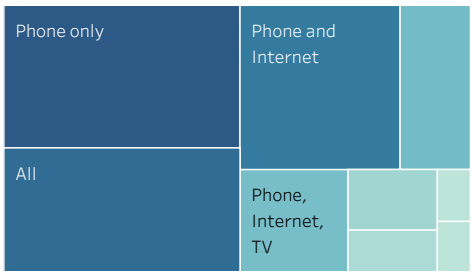
Services Retention Rates

Phone only	Internet, TV, Movies	Internet and TV	Internet only	All	Phone, Internet, Movies	Internet and Movies	Phone, Internet, TV	Phone and Internet
0.9233	0.7791	0.7733	0.7364	0.6969	0.6953	0.6941	0.6795	0.6391

Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Device Protection	Time promotions by service bundle	Narrow price margins	Summary and the future
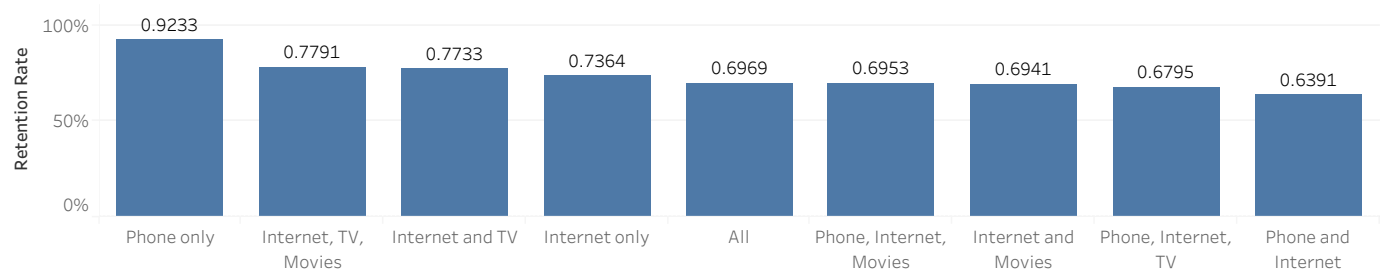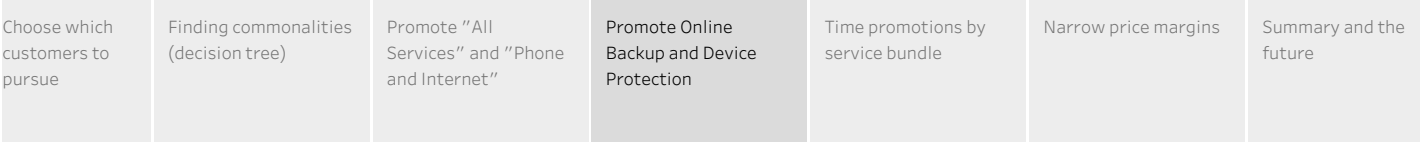
Online Backup and Device Protection should also be promoted to target customers because each represents 32% of add-on products

Could be used to ID target customers:

~ Supports theory of leaving customers as tech savvy (no Tech Support and separate Online Security software)
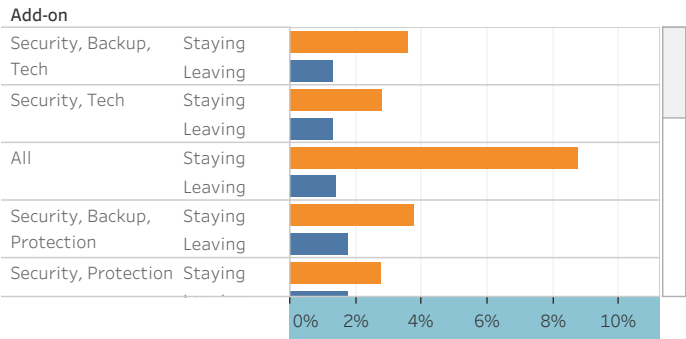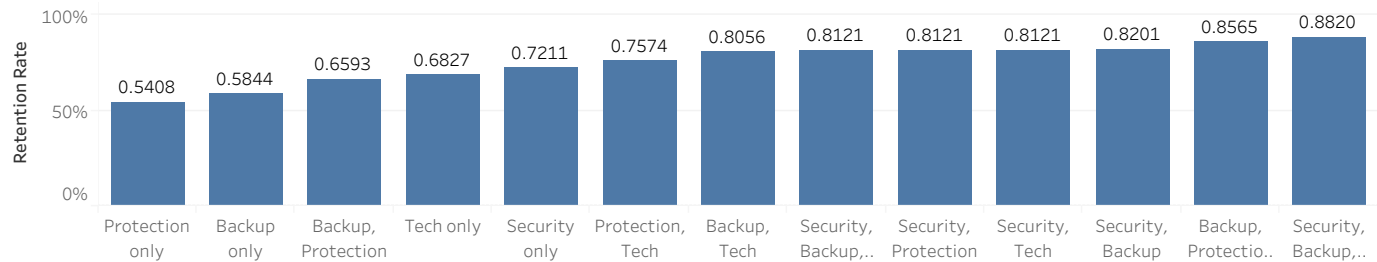~ Single add-ons also have lowest retention rates
~ Favor of individual add-ons by leaving customers could imply unwillingness to financially commit and/or lower incomes
~ Bundled add-ons have higher retention rates
~Favor of bundled add-ons by staying customers could imply satisfaction with company and/or higher incomes

Add-on Popularity

Add-on		
Security, Backup, Tech	Staying	
	Leaving	
Security, Tech	Staying	
	Leaving	
All	Staying	
	Leaving	
Security, Backup, Protection	Staying	
	Leaving	
Security, Protection	Staying	

0% 2% 4% 6% 8% 10%

Retention Rates for Add-ons

Protection only	Backup only	Backup, Protection	Tech only	Security only	Protection, Tech	Backup, Tech	Security, Backup,..	Security, Protection	Security, Tech	Security, Backup	Backup, Protectio..	Security, Backup,..
0.5408	0.5844	0.6593	0.6827	0.7211	0.7574	0.8056	0.8121	0.8121	0.8121	0.8201	0.8565	0.8820

Retention Rate

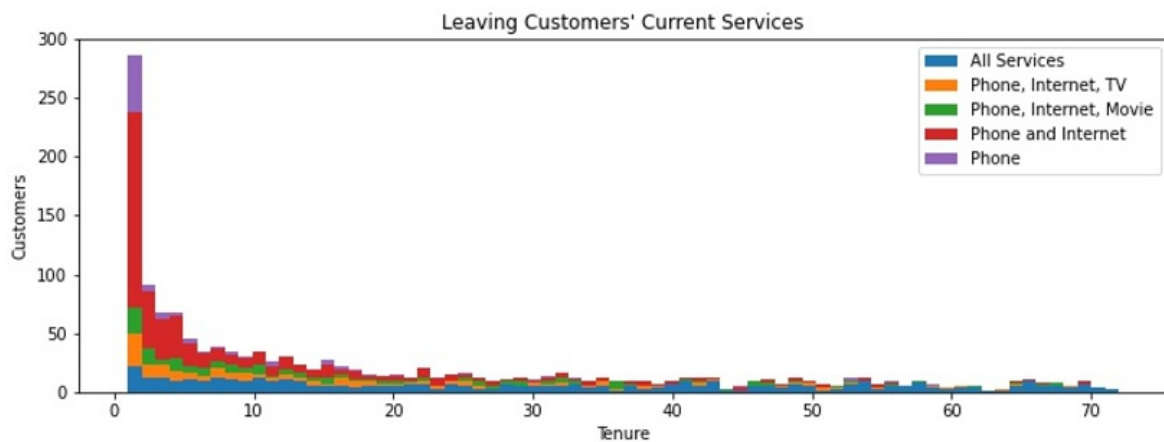| Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Device Protection	Time promotions by service bundle	Narrow price margins	Summary and the future

Promotions should be timed to unique customer/tenure churn distributions for different service bundles

Example for top two service bundles:

Phone and Internet: focus on periods 1 - 5 *(especially 1)*
~ Use Loyalty Program?

All Services: focus on entire tenure range *(especially 1 - 15)*
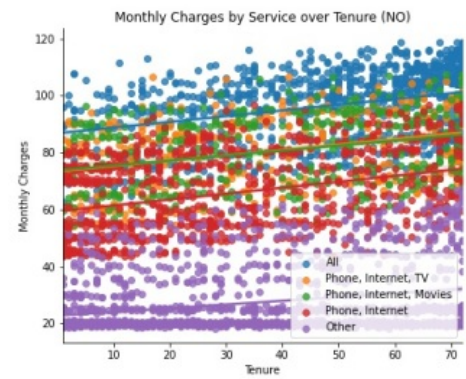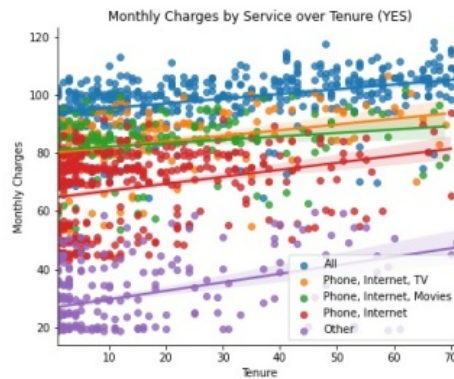
(Others fall Inbetween)

Leaving Customers' Current Services

Legend:
- All Services
- Phone, Internet, TV
- Phone, Internet, Movie
- Phone and Internet
- Phone

Y-axis: Customers
X-axis: Tenure

Narrowing price differences for service bundles could help churn

Insights:

~ Varying popularity of products over time

~ Starting prices higher for leaving customers

~ Prices always higher for top two leaving customer products

~ Must account for monthly contracts, fiber optic Internet, and less add-ons

~ Prices always higher for customers who have stayed with company longer -- hurting retention?

Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Device Protection	Time promotions by service bundle	Narrow price margins	Summary and the future

SUMMARY
of targeting leaving customers and promoting the products they use

Target Customers:
~ fiber optic Internet
~ smaller households
~ electronic checks and
paperless billing
~monthly contracts

Service Bundles with Different Revenue Streams (must prioritize):

1. All Services
2. Phone and Internet
3. Inbetween

Products to Promote (keeping timing in mind):

Services:
1. All Services
2. Phone and Internet
3. Phone, Internet, TV and Phone, Internet, Movies (tied)

Products to Promote:

Add-ons:
1. Online Backup
2. Device Protection

Average tenure of leaving customers is 18 months
Average total charges of a customer with a tenure of 18 months is $1276

Roughly 300 new customers leaving -> Convert 1/2 of them -> $190,000 revenue over next 3 years

Choose which customers to pursue	Finding commonalities (decision tree)	Promote "All Services" and "Phone and Internet"	Promote Online Backup and Device Protection	Time promotions by service bundle	Narrow price margins	Summary and the future