

ABC Wireless Inc Churn Analysis



MIS-64036-001-Business Analytics Final Project
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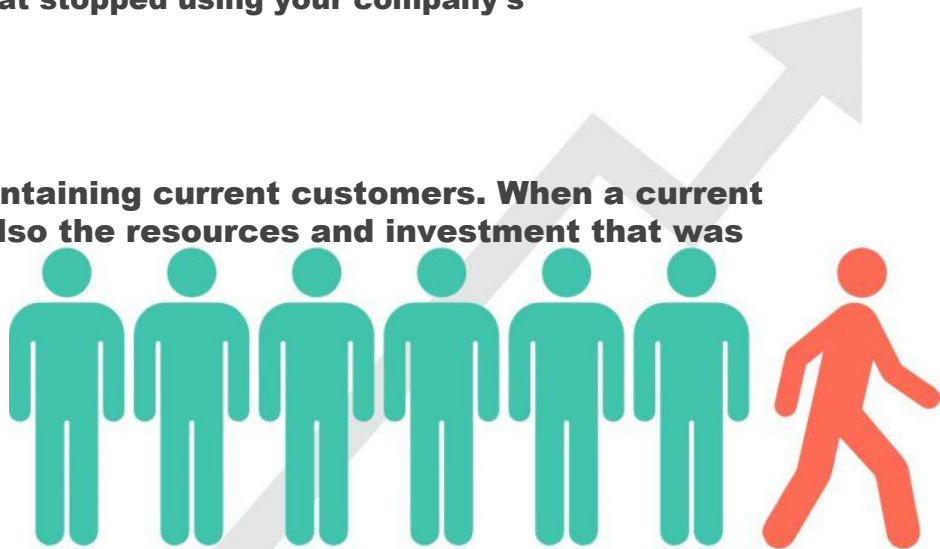
Problems and Objective

What is Customer Churn?

- **Customer Churn is the percentage of customers that stopped using your company's products or service during a certain time frame.**

Problems

- **Acquiring new customers costs more than maintaining current customers. When a current customer is lost, we lose future revenue and also the resources and investment that was spent to acquire that customer.**

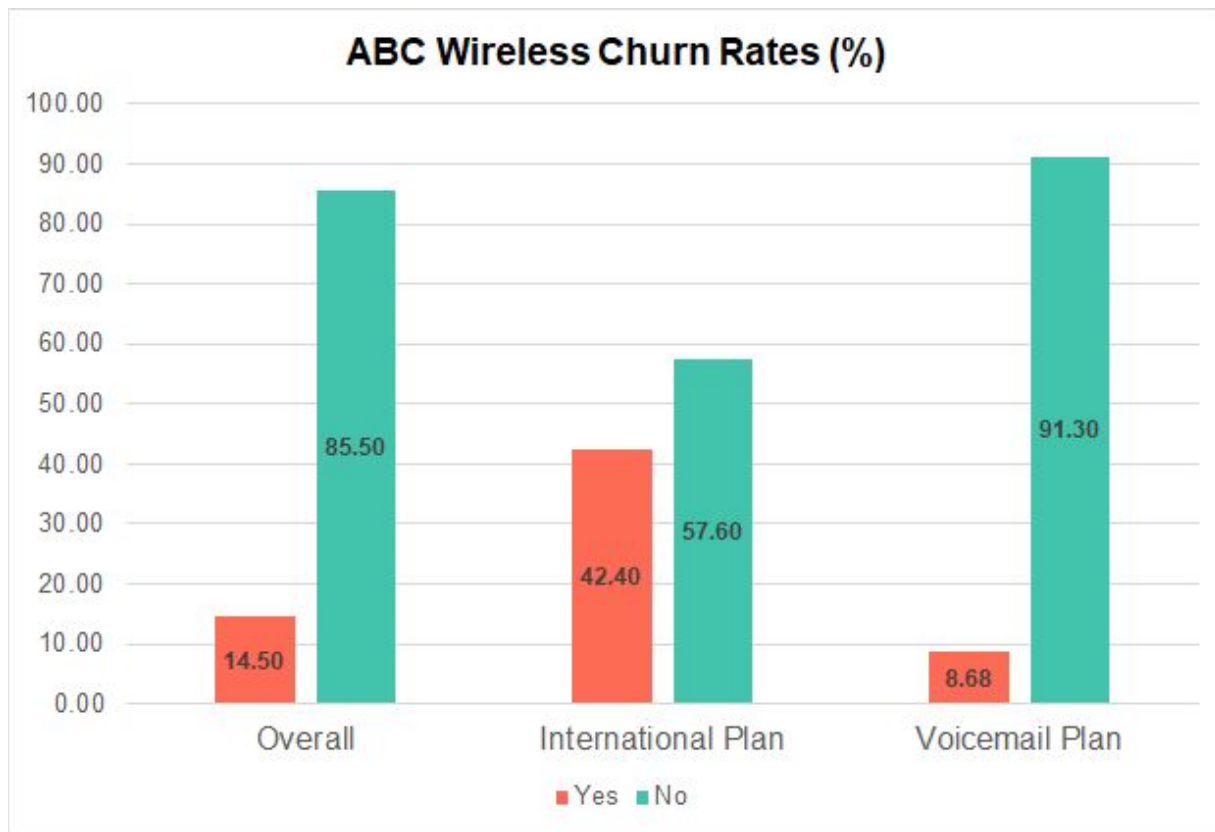


Objective

- **Our goal is to create a logistic regression model that accurately predicts the potential churn of customers (true positives) and has minimum misidentifications (false positives).**
- **Once the customers who are most likely to churn are identified, a targeted approach can be used to address the factors that most influence churn.**

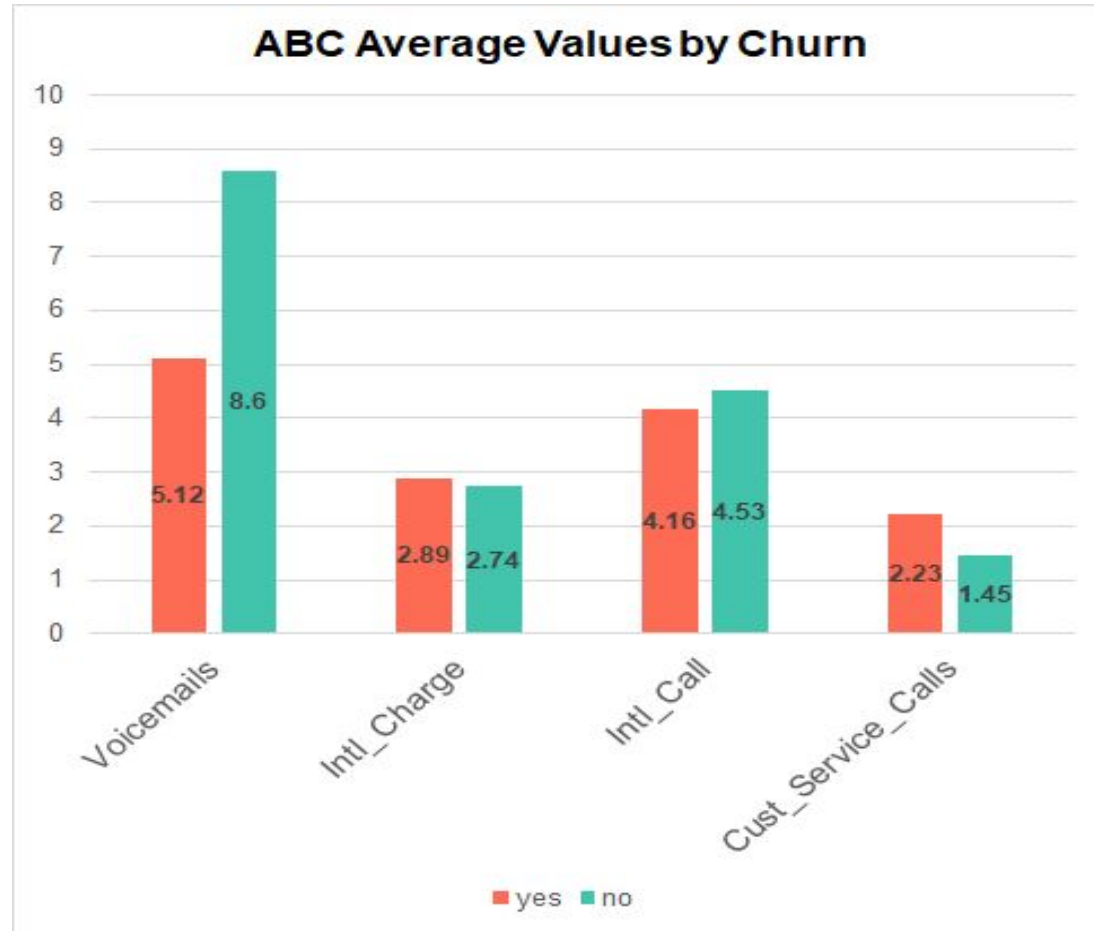
Data Overview

- **A preliminary look at the data shows our overall churn rate is 14.5%**
- **Customers with an International Plan have a much higher churn rate than the general population (42.4%)**
- **Those with a voicemail plan have a smaller churn rate than the general population (8.68%)**



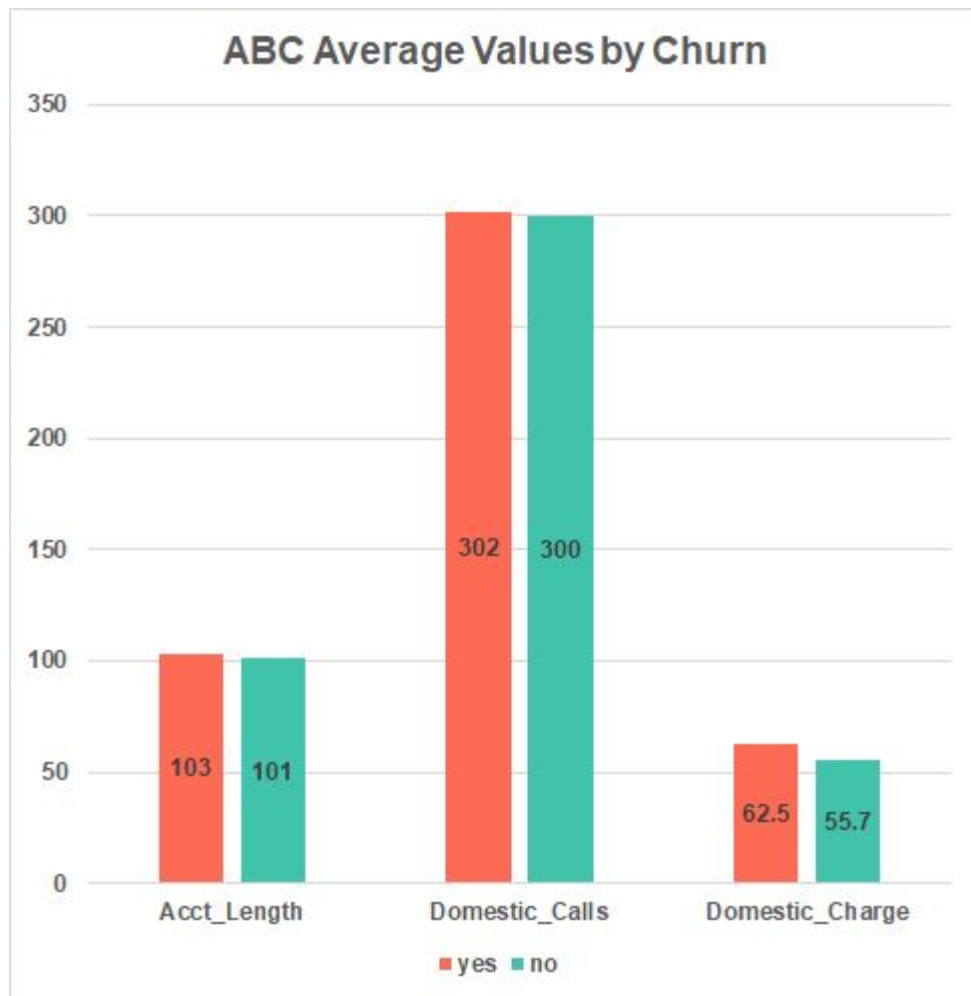
Data Overview

- **On average, customers who stay with ABC Wireless have a higher number of voicemail messages**
- **Note that the average number of customer service calls is higher for those who choose to leave ABC Wireless.**
 - **Opportunity: What can we do to provide better customer service? What can we do to minimize the need to call for help?**



Data Overview

- Interestingly, the length of a customer's account does not appear to be a factor impacting churn
- There is no significant difference in the number of calls placed by those who churn and those who don't
- Those who leave have, on average, higher bills than those who stay.
 - **Opportunity:** What incentives can we offer to those with higher charges?



Data Overview



Charges Per Minute

	Min.	1st Q	Median	Mean	3rd Q	Max
Day	0.17	0.17	0.17	0.17	0.17	0.17
Eve	0.08	0.08	0.09	0.09	0.09	0.09
Night	0.04	0.04	0.05	0.05	0.05	0.05
Intl	0.27	0.27	0.27	0.27	0.27	0.27

- **Notice that all of our customers are being charged the same rate for their service**
- **Opportunity: Can we offer different rates to those who utilize our services the most, have the highest bills, and are most likely to churn?**

Insights and Conclusions



Insights and Conclusions

Factors Influencing Churn (In descending order of influence)

Influencer	Odds of Churning (More/Less Likely)	Insight	Action
Total Domestic Charges	More	Look into additional rate options and incentives for those with highest charges	Provide multiple rate options and incentives
International Plan (Yes)	More	Identify whether customers are choosing another domestic plan or leaving the United States. This will determine how much control we have over this churn.	Collect more demographic data and do deeper research based on customer needs
Customer Service Calls	More	Customer service needs improved, customers need fewer reasons to call, or both.	Survey customers at conclusion of service experience to assess areas for improvement. May show need for more reps, more options (bots, livechat).
From one of the Following States ("CA", "ME", "MI", "MS", "MT", "NJ", "NV", "SC", "TX", "WA")	More	These states are spread all over the country. Will need to look into each individually to discover their unique features.	Dive into why these states churn. Do an assessment of signal in areas with most churn. Do marketing research on competition to decide if plan changes are in order.
Total International Calls	Less	Those with an international plan not making phone calls are more likely to churn.	Ensure our international plans are providing quality coverage. Market the value of our international plan to those enrolled to encourage its usage.
Voicemail Plan (Yes)	Less	It's possible those without a voicemail plan are not using their phones and thus more likely to give up their plan.	Encourage those who use their phones but have no voicemail plan to open one. May not have luck with those who don't use phone.
Total International Charge	More	More data is needed to assess why total international charges may lead to more churn.	Use data to determine if better rate options or a more flexible service plan would better serve customers.
No. of Voicemail Messages	More	Difficult to say why customers would have a lot of voicemail messages. It is possible they are not using their phones to take calls and don't see the value.	Assess the options customers currently have for accessing their voicemail and if additional options (like checking through email) may lend themselves well to our base.

The image features a vibrant, abstract background composed of numerous overlapping triangles and polygons in a variety of colors including shades of orange, yellow, red, purple, and teal. Each polygon has a subtle, mottled texture. In the center of the composition is a large, solid white circle. Inside this circle, the words "THANK YOU" are written in a thin, black, sans-serif typeface. The text is arranged in two lines, with "THANK" on the top line and "YOU" on the bottom line, both centered horizontally.

THANK
YOU