Telco
for ISOM3360 Fall 2023

You, a business analytics professional, have been hired by TelCo, one of the largest telecommunications companies in the United States. TelCo is having big churn (i.e., customer attrition) problems in its mobile phone business. In the Atlantic region, more than 20% of cell phone customers leave when their contracts expire, and it has become increasingly difficult to acquire new customers. In response to these challenges, the marketing department has designed a special customer retention offer: a $200 dollar credit if the customers renew their contract for an additional year after their contract expires. You have been called to better understand the problem and propose a potential solution.

More specifically, your task is to come up with a plan to take advantage of Telco's immense amount of data in order to decide who to target with the retention offer. Be as specific as possible about what data would you use, how would you use it, and how would you decide who to target given a limited budget for retention incentives. Use your best judgment regarding the type of data TelCo could possibly have.

After you have learnt three business analytics class, you now understand that you want to define a target variable for churn and use the historical data to predict the target variable. The marketing department designed the following retention offer upon expiration of a contract: a $200 discount if the customer signs a contract for at least one more year. Contacting a customer to make the retention offer costs $5. Your job is to use historical data (7032 contract renewal instances) from contracts that have expired in the past to decide which customers Telco should contact upon contract expiration. You have the following data about each contract renewal instance:

- <u>Gender</u>: Whether the customer is a male or a female.
- <u>SeniorCitizen</u>: Whether the customer is a senior citizen or not.
- <u>Partner</u>: Whether the customer has a partner or not.
- <u>Dependents</u>: Whether the customer has dependents or not.
- <u>tenure</u>: Number of months the customer has stayed with the company.
- <u>PhoneService</u>: Whether the customer has a phone service or not.
- <u>MultipleLines</u>: Whether the customer has multiple lines or not.
- <u>InternetService</u>: Customer's internet service provider.
- <u>OnlineSecurity</u>: Whether the customer has online security or not.
- <u>OnlineBackup</u>: Whether the customer has online backup or not.
- <u>DeviceProtection</u>: Whether the customer has device protection or not.
- <u>TechSupport</u>: Whether the customer has tech support or not.
- <u>StreamingTV</u>: Whether the customer has streaming TV or not.

- <u>StreamingMovies</u>: Whether the customer has streaming movies or not.
- <u>Contract</u>: The contract term of the customer.
- <u>PaperlessBilling</u>: Whether the customer has paperless billing or not.
- <u>PaymentMethod</u>: The customer's payment method (electronic check, mailed check, Bank transfer (automatic), Credit card (automatic)).
- <u>MonthlyCharges</u>: The amount charged to the customer monthly.
- <u>Churn</u>: Whether the customer churned or not shortly after contract expiration.