Icon

Description automatically generatedCandidate Technical Review Assessment

Dear Candidate – Thank you for your continued interest in Comcast. We’re impressed by your background, experience and your exhibited passion for data science. We would like to invite you to the next step: technical assessment. We would like to see how you’d approach the kind work you could be doing in this role.

Please answer the following questions to the best of your ability; your submission should include:

* A write-up addressing the business scenario outlined below (mostly likely **a R or python** notebook exported as a **HTML** file, but feel free to use any other tool of your choice)
* (If not integrated in the file above, then) **a separate file** containing your ***outputs and scripts***

# Business Scenario

You are in a meeting with a product owner who just launched an additional customer care Center of Excellence (CoE). They have the opportunity to *cross-sell/upsell* customers with additional products. They need your help in identifying which customers to pitch to and what product.

At your disposal is historical data for **the last 12** months of customer upgrades, their demographic and transaction data. The business has 4 products –

Video, Data, Home Security and Voice.

A customer might be subscribed to a **single** product, a combination of 2 or 3 products, **or** have all 4 products.

* 1. Describe how you would go about providing a solution to the business? What modeling approaches would you use? How would you measure the **effectiveness** of your solutions?
  2. Now **assume** the business partner has prepared a pipe **delimited dataset** for you. The dataset contains 128 variables and 300,000 records.

The dataset contains records of customer that **were serviced** by the CoE in the last 9 months, and the analyst created a **binary** indicator (1 = YES, 0 = NO) of **which customers were cross-sold** as the target variable.

The remaining independent attributes are based on the **snapshot view** of the customer’s data as of the time of service at the CoE.

**What modeling approaches** would you use? What would your output to the business look like? How would you measure the effectiveness of your solutions? Based on your analysis, what recommendations and or insights do you have for the business?