***Client Comms - Data Engineer***

Consider the work you just completed in the Data Engineer Exercise. Please write no more than 2 paragraphs explaining to a client how you approached this task. Remember that clients do not need to know every process detail, but do want to understand how and why your choices contribute to our overall strategy and any benefits of the end product.

I approached this task in 2 steps. First task was to select framework, I took a look at the Dataset and decided to take spark as dataset was big and there were joins and aggregation required, and spark was very good fit if the data is continually coming in in batch and automation can be built around it to generate final report.

Second task I chose was Jupiter Notebook because the if anything needs to be added due to additional requirement it would be easier to do it with Jupiter notebook. I joined all three tables based on keys and split created date and cast column type and aggregate based on date.

Benefits of end product: Days on which most constituents were acquired or subscribed could be used to match events that happened around that day like some news or rally or speech. Further the source can be figured out as well.

Analytics exercise:

1. By what percentage did the gifts/clicks ratio improve from “only you” to “before midnight”? Please show your math.

((0.0761646-0.0295468)/0.0295468) \* 100 = 57.77%

1. In the email “before midnight,” if the gift/open ratio held steady, how many opens would be required to reach 300 gifts? Please show your math.

(224/66396) = (300/x)

X=88,923-66396=22527

1. Please rank the emails in order of best to worst performance and please explain why you selected that order.
   1. Only You
   2. before midnight
   3. got a sec

Number of clicks and number of gifts are higher in first 2 emails because of click based on subject ‘Only You’ has most performance and number of gifts in ‘before midnight’ has best content

1. Should the client be concerned about the drop in average gift from the “this is crazy” email to the “one more minute” message? Please explain your answer.

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject** | **Gifts** | **Raised** | **Average Gift** |
| one more minute | 70 | $2,109 | $30.13 |
| this is crazy | 51 | $2,543 | $49.86 |

Explanation: The drop in terms of percentage is 27% but the amount raised is more which means the average gift price is still more which still a good thing for now.

1. How would you say the response rate for the “one more minute” message compares to the “can’t stop hitting refresh” message? Please explain your answer and show your math.

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject** | **Sent** | **Open Rate** | **Response Rate** |
| one more minute | 33,251 | 21.4% | 0.12% |
| can’t stop hitting refresh | 33,160 | 22.0% | 0.08% |

a) Much better

b) Better

c) About the same

d) Worse

e) Much worse

Explanation: I think the response is “much better” because the increase is almost 50%

33251\*0.12=3990

33610\*0.08=2688

(3990-2688)/2688=48%

Email segmentation exercise:

1. ((“ALS – Full List” intersection “Opened in the last 6 months”) intersection “Donor = yes”) U “ALS – Full List” intersection “Joined in the last 6 months”

“ALS – Full List” intersection ((“Opened in the last 6 months” intersection “Donor = yes”) U “Joined in the last 6 months”)

* 1. Segment 1: those who are having ad names and are donors
  2. Segment 2: Are ad name but not a donor
  3. Segment 3: Are not ad name but are donor
  4. Segment 4 Are Non-ad non donor
     1. Should EXCLUDE: “Donor = yes” U “ALS – Ad names” U “20180111 – 90 day non-opener suppression”

1. Day 1 – version II – some group B will receive group C msg

Day 3 – version II - some group B will receive group C msg

**Email**

|  |
| --- |
| First Name,  It sounds too horrible to be true, but this is happening: Donald Trump picked Scott Pruitt as the chair of the Environmental Protection Association, and climate deniers are *thrilled.*  It's no secret why: Pruitt has spent his career fighting against environmental protections As attorney general of Oklahoma, he sued the EPA to block President Obama’s policies for clean air and water. He’s long denied the existence of climate change, and he even called a reporter’s question about climate change in the aftermath of Hurricane Irma “offensive.” **Unless we act now, he could dismantle the EPA.**  Trump has filled his Presidential cabinet with some seriously scary people, and we need 25,000 Democrats to speak out right now. **Add your name to be one of 25,0000 people demanding that Trump removes Scott Pruitt from the EPA!** |
| |  |  | | --- | --- | | |  | | --- | | **Stop Scott Pruitt** | | |
| Thank you for taking action. Together we will protect the environment make America a leader in responsible energy solutions. |

**Client Proposal**

We have embraced the mantra of continuous improvement on behalf of our clients, constantly testing ideas, challenging and refining our basic assumptions, and innovate beyond them. That said, we are aware of our client’s constraints and always work with them to know when to push the envelope and when to embrace their core strengths.

Because we have clients with enormous e-mail lists hundreds of thousands of Facebook fans and heavily trafficked websites, we have analyzed hundreds of millions of individual data points and have been able to measure empirically, reliably, and repeatedly different strategies and tactics for maximizing revenue.   In this process, we have pioneered creative approaches that dramatically increase response, sometimes by as much as 300 percent, including.

* **The $5 ask.** We recruit donors at very low $ amounts to maximize participation and capitalize on solicitation. This strategy has been tested over a large number of circumstances by our head to head and it always nearly wins.

**Contribution submission button text.** It seems like a tiny detail, but we have run numerous, rigorously controlled tests across awide number of Web sites. We know the few words that appear on the contribution page “submit” button can increase overall conversions by as much as 40%.

* **“Html-lite” messages** We always look for ways to make emails feel more authentic. Plain-text messages that look like they could have been tapped out on the signer’s blackberry can—in the right circumstances -- increase revenue by fifteen percent

We are eager to bring all of this experience to bear for you.