Introduction

Company X is an online platform that allows both businesses(enterprise) and individuals to purchase produce and goods from various independent farms.

Customers find Company X through a variety of different ways, which is recorded as the signup_source. If a customer was brought to Company X from one of the independent farms that they partner with, the source will be referral_partner and the ID of the partner is recorded in the customer table. Customers can also self-report where they heard about Company X, and can select options including (but not limited to) trade shows, search engines, etc. If one customer refers a new customer, the new customer's source will be customer_referral and the ID of the referring customer is recorded.

Based on the expected revenue, customer type, and account owner each customer has been sorted into a tier:
1. These customers are considered high priority, and often have considerable buying potential. These are the customers that Company X targets most heavily.
2. These customers are medium priority but are likely to not perform as well as a tier 1 customer. They are the largest part of the customer base.
3. These customers are lowest priority, and they are not targeted directly.

Company X has created some metrics to measure the success of their intake funnel to better measure future Marketing and Sales initiatives. The intake funnel of Company X takes looks at three milestones, which the ETL team has added to the customers table. Customers have a set period of time to reach each milestone, otherwise they are not counted as a "success" for measurement purposes. These time constraints were chosen based on the typical time it took for customers to move from one stage to the next.
1. Sign-up
   ○ The date that the customer first creates an account with Company X
2. ToS Accepted
   ○ The date the customer accepts the Terms of Service for Company X, allowing them to order
   ○ If a customer violates the Terms of Service, the date is removed until they reaccept.
   ○ This must occur within 7 days of the sign-up date
3. First Purchase Date

- ○ The date the customer places their first order with Company X
- ○ This must occur within 30 days of accepting the ToS

Tasks

While this dataset has been provided in a workbook, we typically work directly in our database using SQL and occasionally Python before finalizing in our Business Intelligence tool. Please provide sample SQL code of how you would prep or clean the data to complete each of the applicable tasks. Visualizations can be completed in Excel or an equivalent.

Sales and Marketing have requested reporting on the intake funnel for January, April, July, and September.
1. Looking at the records for this month, are there any issues with the data set?
   a. If issues are found, how should these be explained to Sales and Marketing leadership?
   b. Do you have any suggestions to decrease the chance of records being incompatible, or additional fields that could be useful?
2. Create visualizations for each of these months, illustrating how many customers were successfully onboarded.
   a. Note any adjustments/omissions that you need to make to build these visualizations

Sales and Marketing have been using this metric for a number of years, and the business has gone through numerous changes. After reviewing your visualization, they return with the following questions. You've been asked to take a cursory look, and if anything jumps out at you to share your early findings to kick-start a project with the Data Science team.
1. Do the conversion timelines for the metrics still make sense? How long does it typically take for a 2020 customer to move from each step to the next?
2. Do referred customers have any different behaviour than the rest?