Referral Campaign Analysis

SkillBuilder

This SkillBuilder uses data describing orders from an e-commerce business based in Europe, for the month of April 2018. During this month, the company ran a professional campaign where existing users could provide a referral code to new users. When the new user makes their first purchase using a referral code, the original user receives €10 in credit for a future order.

The data is provided in two tables, each on their own page of the workbook. The **Orders** table contains information about randomly sampled orders made during the recording period. The **Users** table contains information about the users that made purchases during the recording period.

Part 1 - Combining the Data

In order to analyze the data, we should join information about the Users and Countries into the Orders table. You will fill in three new columns in the Orders table:

1. In the country_code column (Orders column E), fill in the country code for the user that made each purchase.
    - Be sure to check out the Data Dictionary tab if you have any uncertainty about what data is contained in each column of each table!
2. In the country column, fill in the full country name that matches each country code.
    - An additional table, **Countries**, is provided to help with this task.
3. In the is_referral column, fill in whether or not the user came in from a referral.

Part 2 - Summarize the Data

Now that we have our data prepared in a single table, let's summarize what it can tell us about the promotional campaign.

4. First, create a PivotTable from the combined **Orders** table that shows the average money spent per order by country and referral status.
5. Check your work:
    - What is the average spent per order among all non-referral users?
    - What is the average spent per order among all referral users?

6. In how many countries do non-referral users spend more per order than referral users?
7. Create a second PivotTable from the **Orders** table that shows the total number of orders and total revenue made by orders from non-referral and referral users.
8. Check your work:
    - How much revenue was made from non-referral user orders?
    - How much revenue was made from referral user orders?
9. Finally, create a third PivotTable from the **Users** table that shows how many non-referral and referral users there are.
10. How much did the company pay out for new referral users?
    - Check the scenario at the top of the instructions if you think you're missing information to answer this question. Sometimes you need to bring in knowledge from outside the data itself!
11. Calculate:
    - What is the average number of purchases made by non-referral users during the promotional period?
    - What is the average number of purchases made by referral users during the promotional period?
    - *Hint*: You'll need to use the second and third PivotTables (the ones you created in questions 7 and 9) to answer this question.

Part 3 - Interpret the Data

Put yourself in the shoes of a data analyst who has been assigned the analysis of the referral program. What would you report to a superior on your own team, or to a business stakeholder who had the idea for the program in the first place? It can be tricky to pull everything you've explored together into a focused message, but it's a vital skill to have as an analyst. And the best way to develop that skill is to practice it!

12. How would you characterize the success of the referral program? Should the company continue to implement the program going forward?
13. Think about your analysis and conclusions. Is there any additional information or analyses that would help you make a more informed judgment?