Case: Data Scientist
Company: Twigeo

Description of the case:

A client wants to know how to invest money to get the best result on their app trial traffics. The client spends money on different campaigns. They want to have more trials with efficient money. We should find the main factors which have impact on their number of trials.

What are the facts:

There are 3 networks, 5 targeting types and 4 different audiences. There are different dates of trails. Each day there are specific champaigns which gives trials.

Everyday spending on each present campaigns are given.

Data exploration by history:

An easy investigating of data shows the total trials in whole period of time is

`598437.0`

The total money spent in whole period of time is

`1635002 $`

The client has increased the spending over last couple of months, however, the number of trials remained almost constant. So their revent strategy of allocating was not good.

The client mostly invested on facebook_1_A in whole period of time. However, they had the higher trial on facebook_2_C.

The most occurred trials are about 0-200.

The most occurred amount of spent money on campaigns are around 0-500.

Plot indicates that for high spending money the number of trials tend to increase, which is natural.

First intuition about different types:

Between target_types, it seems target_type 1 and 5 spend less money for high trials. So they are more efficient:

1- Type 1
2- Type 5

Between target_audiance the group D and A shows less spending money for high trials. So they are more efficient:

1- D
2- A

Between networks, we do not see any indication of which network gives less spending, because we see that all 3 networks are present in the small spending regions.

First intuition about different campaigns:

From scatter plot of all campaigns, we notice that instagram_1_D and facebook_1_D has higher trials while spending less money, therefore, more efficient. By further investigations, we confirm that Instagram_1_D is the best. Then face_book_1D and facebook_5_A are respectively the second and the third ranks:

1- Instagram_1_D
2- Facebook_1_D
3- Facebook_5_A

We also look at weekdays. It seems that people downloaded the trials more often on Mondays and Sundays. Mondays is because they are after weekend on work and less feels to work so they go to internet and spend sometime on surfing. Sundays is also natural because they are back from Saturday and spend time at home, not working. From history, it seems the client spent almost the same on all days. So it is better the client spends on these days:

1. Mondays, Sundays

In addition, we find out the less downloaded day is Friday, that is also natural, because they spend time with friends, out, drinking.

Find the answer by calculation:

In this part, we put all 14 campaigns into columns and want to find the efficient one (more trials with less money). So, we assign fix 100 $ to each and find their trials. From obtained data, we find that

1- Instagram_1_D
2- Facebook_1_D
3- Facebook_5_A
4- Apple_5_A

are the most efficient. That is exactly same answer we had from data analysis.

Conclusion:

So, finally we conclude that the client should spend the 42000$:

Instagram target 1 and audience D on Mondays and Sundays.

Further investigation would be:

Giving same spending on days and finding exactly which one of Monday and Sunday is the best.

Finding best months with highest trials.