

# Facebook ad campaign - data analysis

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The data in the file `conversion_data.csv` contains data from a Facebook ad campaign by company XYZ.

The column names mean the following:

**ad\_id:** an unique ID for each ad.

**xyz\_campaign\_id:** an ID associated with each ad campaign of XYZ company.

**fb\_campaign\_id:** an ID associated with how Facebook tracks each campaign.

**age:** age of the person to whom the ad is shown.

**gender:** gender of the person to whom the ad is shown

**interest:** a code specifying the category to which the person's interest belongs (interests are as mentioned in the person's Facebook public profile).

**Impressions:** the number of times the ad was shown.

**Clicks:** number of clicks on for that ad.

**Spent:** Amount paid by company xyz to Facebook, to show that ad.

**Total conversion:** Total number of people who enquired about the product after seeing the ad.

**Approved conversion:** Total number of people who bought the product after seeing the ad.

## Problem:

Analyze the data and:

1. Identify which age/gender/interest **segments** the ad campaign management team should focus on. Why?
2. Compare how the various xyz\_campaigns and fb\_campaigns are performing.
3. Quantify how conversion rate varies with age, gender or interest.
4. Identify segments with high and low cost per acquisition.
5. Segment the audience based on
  - a. click through rates
  - b. conversion rates
6. Predict conversion rates for each possible age/gender/interest segment.

## Expectations:

1. Some exploratory data analysis, which answers the above questions, as well as provides intuition into how you would tackle Question 6.
2. Even if not a complete solution, an illustration of the thought process you would follow to arrive at the solution to Question 6.
3. Create a presentation of your results and conclusions, and present it to us here at the office, when you come for interview.
4. Share with us (before you come to the office for interview) any code/calculation that you may have used to arrive at your solutions.

Please reach out to us if you have any questions regarding the problem or the process.