CMS/CS/EE 144: Clickmaniac Report

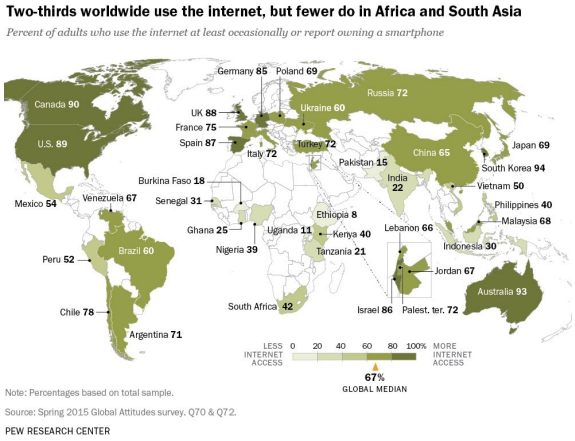
Ida Huang, Catherine Ma, Amal Tariq and Shen (Irene) Wang

March 10, 2017

1 Using Facebook Ads Manager

We used our UI campaign to experiment with different ad sets and ads to maximize reach and page likes. We decided to create two ad sets, each with a daily budget of $1.00 (which is the minimum daily budget), to maximize the amount of information we could gather about different audiences.

Finding our target countries: Our first intuition was to target cities in third-world countries. We believed Facebook users in third-world countries were more likely to get fooled by spam- and clickbait-like ads since they have less experience with Facebook than users in first-world countries. We also figured internet access (and thus access to Facebook) would be more common in cities than in rural areas. Upon further research, we decided to target Kolkata, India and Nairobi, Kenya.



On the map, notice that Kenya reports the second highest Internet access in Africa. We chose Kenya over South Africa, which has the highest Internet access in Africa, because South Africa is not a third-world country. Additionally, notice that India reports moderate Internet access. We chose India over other countries in Asia because its population exceeds other countries in Asia, besides China, by a great amount. We did not choose China because Facebook is blocked by the Great Firewall of China. With Kenya and India as our chosen countries, we proceeded to choose big cities in those countries.

Finding our target demographic: We thought we should appeal to a young demographic since technology tends to be picked up faster by younger people. We thought this would be especially true in third-world countries, where Internet access is a newfound luxury. For Kenya, we decided to target 13 to 40 year old people of both genders, and for India, we decided to target an even smaller audience, 13 to 25 year old females.

Choosing our ads: For our 13 to 40 year old all-gender audience, we chose ads that we thought would have greater universal appeal. We targeted people who were interested in charity and community issues and promoted ads like "Helping Hand" and "Home." We also promoted ads containing Western celebrities that both genders would recognize, like "Kobe" and "Thor."
For our 13 to 25 female audience, we chose ads that we thought would appeal to women. We targeted people who were interested in animals and promoted ads like "Find Me a Home" and "Puppies." We also promoted "Princess" since we figured *Frozen* would appeal greatly to young women.

Finally, we decided to promote our ads on the desktop news feed because we figured people probably pay the most attention to their news feed when they use Facebook.

What we discovered: We discovered that for our larger audience, charitable cause ads did fairly well, but "Thor" did particularly well. For our female audience, we discovered that "Puppies" and "Princess" did exceptionally well.

2 Using the Facebook Ads SDK

The second portion of the project involved using the Facebook Marketing API to manage ad campaigns. The SDK campaign used was pre-made, so the ID was retrieved along with app ID, app secret, and app token. Based on this information, we bootstrapped the API into our program and created an AdSet. For the ad set, we experimented with targeting specs and ad set attributes, to maximize our clickthrough and like rate.

The code in the adsetTest.py file was used to create the New Delhi, India ad set (described in detail below). This file also contains all of our attempts at using the SDK to create ads and describes the errors we encountered. All the unsuccessful code is commented out. The code in the adsetTest_hyd.py file was used to create the Hyderabad, India ad set only (also described in detail below).

Using the SDK: The ad interests were found by using $TargetingSearch.search(params)$ to retrieve the interest ids and names. $flexible\_spec$ was used to search for a target audience that was interested in any of the interests above or were friends of people who had liked the target page and excluded people who had already liked "Ideas Behind the Web" from the target audience. $billing\_event$ was set to make payments per ad impression and $optimization\_goal$ was set to the result we wanted to achieve with our ad, which was to increase the number of likes for the page. The promoted object was the "Ideas Behind the Web" page. Autobid was used.

General target demographics: Based on our UI campaign's success with high internet access cities in third world countries, we decided to target similar demographics for our SDK. We had generated the most likes in India, so, using the SDK we created two ad sets, each with a budget of $1.00 targeting New Delhi, India and Hyderabad, India, with a 12 mile radius around the city. Both campaigns targeted people who had indicated they were interested in charities, community issues, volunteering, or nonprofits. We were able to do this using the flexible_specs parameter. We also preferentially targed friends of people who had liked the Ideas Behind the Web page since they would be more likely to also like the page given that they know someone connected to the page.

New Delhi Campaign: Our New Delhi ad set targeted women in the age range 13 to 25 who had indicated interest in Disney Channel, Disney princesses, or the movie or franchise *Frozen*. For this ad set, we used the "Princess" ad and the "Puppies" ad, since that worked well with this demographic. The code for this ad set is found in adsetTest.py

Hyderabad Campaign: The Hyderabad ad set targeted an age group from 13 to 35 year olds of all genders with ads that would appeal to broader audiences. The targeted individuals in this ad set had expressed interest in animals or the aforementioned interest used for both ad sets. For this ad set, we used the "Thor" ad and the "Puppies" ad. The code for this ad set is found in adsetTest_hyd.py

Creating the Ads: We were unable to create the ads through our API code because we kept encountering an error message "The ad image could not be loaded", error code 100 (shown below), despite checking our ad creating code with others.

```
Status:  400
Response:
  {
    "error": {
      "code": 100,
      "is_transient": false,
      "error_subcode": 1443035,
      "error_user_msg": "The ad image could not be loaded",
      "error_user_title": "Error Loading Image",
      "message": "Invalid parameter",
      "type": "OAuthException",
      "fbtrace_id": "DZ2Is7JDwrK"
    }
  }
```


In order to work around this problem, we used the API to create the ad set and specify the targeting, and we used the UI to actually create the ads and upload the ad media.

In our attempts to create an ad through the API, we wrote code that would design the ad format using *AdCreative*. An *AdImage* was created from an image file, and the image was used to create the *AdCreative*. Information about the ad message, ad link, image caption, image hash, and page id were added to describe the *AdCreative*. Unfortunately, this code generated the error above. However, we still wrote code to create a Facebook ad with *Ad*. Ad creative information and ad set information would then have been linked together in a new object representing the ad, which would have been activated through the API code.

3 Results

Target Audience	Ad	Clicks	Likes
India, Female, 13-25	Puppies	290	298
India, Female, 13-25	Princess	60	57
Kenya, All, 13-40	Thor	216	218
Kenya, All, 13-40	Home	41	42

4 Team Contribution

Catherine directly interacted with the Facebook Ads Manager daily. She experimented with different ad sets and ads to maximize reach and page likes. The group worked together to create the ad sets in the UI and the SDK. Amal and Irene focused on writing and debugging the Facebook SDK campaign. This involved creating the ad sets, experimenting with targeting specs, adding the ad creative, and booking the ads. They experimented with different targeting searches and defining different parameters for the ads. Ida tried to experiment with different geographic locations.

5 Suggestions for the Future

The documentation for the Facebook SDK was confusing and had errors or pieces of code that just didn't work (e.g. custom locations for targeting, uploading ad image). More guidance from the TAs on the creation and booking of ad sets, or some sort of framework in which to write our code would have made writing the API code easier. In addition, it was difficult to test the code due to rate limitations, so some allotted time for each group to do testing might have helped. In general, although the idea of having a UI and SDK campaign was interesting, the SDK campaign was confusing to set-up and difficult to get help on. This is due to the fact that this was the first year the idea was implemented, so TAs were also unfamiliar with the API code implementation.

Further, although the SDK portion of this assignment is still somewhat in the developmental phase, it would still have been nice to have more information about how it would be graded. The assignment stated that there were 10 points for a working API code, which we have submitted, but based on the assignment writeup it is unclear whether or not a continuously updating script is necessary to receive those 10 points.